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ABSTRACT

The extent to which the educational system reaches women in Kenya will in some measure dictate the pace of national development. Data indicate that significant progress was made in the area of education for Kenyan women during the 1975-1984 decade. This was particularly so at the primary school level where near-parity was achieved in the enrollments between boys and girls, and, to a lesser extent, in the adult literacy role for women. There are, however, regional disparities and significant differences in attrition rates and in achievement. At the secondary school level, modest progress has been made in the number of girls attending school. Three disturbing observations at this level are the high rate of drop-outs among females due to pregnancy, the limited number of secondary schools for girls, and non-participation of girls in science and technical education. On the positive side, improvement in the number of girls attending secondary school can be attributed to changed parental attitudes regarding the value of education for women that has taken place during the last decade. Eight recommendations for educational development conclude this document. (BZ)

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THE EDUCATION OF WOMEN IN KENYA

1975 — 1984

By
Professor G.S. Eshiwani

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March 1985

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THE EDUCATION OF WOMEN IN KENYA

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1. Introduction:

Women constitute slightly over 50 per cent of Kenya's population. Their participation in small-scale agricultural productivity, farm management and in various development activities is well documented (Krystall; 1978). In addition, women are chiefly responsible for home management and child care and therefore play a major role in the quality of life for the nation. It is therefore partinent that women's participation in education should be examined from time to time. The extent to which our educational system reaches women or develops their abilities and skills will in some measure dictate the pace of national development.

This study examines women's participation in formal and non-formal education in Kenya during the decade 1975-1984. During that period, Kenya has experienced phenomenal expansion in her educational system at all levels. At primary school level, overall enrolment rose from 2,894,155 pupils in 1975 to over 4 million pupils in 1984; at secondary school level the number of students rose from 226,835 in 1975 to over 400,000 in 1984;

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and at University enrolment rose from 5190 students in 1975 to nearly 10,000 students in 1984. These statistics clearly show that the number of students in the formal education in Kenya doubled at all levels within the decade of 1975-1984.

In studying expansion of educational systems it is important to examine the democritization of those systems. In this connection this study was concerned with women's participation in education from two main angles: that of equality and equity respectively. Equity was defined as social justice or fairness (See Bronfenbrenner): and equality was defined as the actual patterns in which education is distributed among women. The main question that I sought to answer in this study with respect to equality was: At what points in the educational system, and to what degree, and how are women screened out of or kept out of the system? Three focus areas were identified for the purpose of data collection and analysis:

1. Equality of access: The probabilities of women getting into the school system.

2. Equality of survival: The probabilities of women staying in the school system (mainly primary and secondary).

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3. Equality of output: The probabilities of women to achieve at the same level academically as men at a defined point in the school system.

2. Methodology:

Two methodologies were used in data gathering for this study. The first methodology employed documentation analysis. The documents analysed included annual reports from the Ministry of Education, Science and Technology; reports from the Central Bureau of Statistics, UNICEF and the Kenya National Examination Council; Newspaper articles and various research reports including thesis. In addition to this raw data from the Ministry of Education, Science and Technology was analysed to augument the information obtained from the annual reports.

The second methodology used in this study was interview schedule for persons connected with women's education at various levels. I interviewed Senior Officers in the Ministry of Education, Science and Technology, Headmistresses of Girls Schools, a cross-section of women leaders and parents.

3. RESULTS AND DISCUSSION

3.1. Girls Participation in Primary School

The enrolment of girls in the primary school has been increasing steadily since independence.

Table I shows that the number of girls attending the primary schools in Kenya has risen from 304,829 in 1963 to 2,108,352 in 1984. During the decade 1975 to 1984 the number of girls attending primary school rose from 1,340,429 to 2 million This represents a rise of 50 per cent Figure I shows that since independence girls' primary school attendance has increased at a faster rate than boys', enabling girls to approach equality in enrolments. In 1963 girls accounted for 34 per cent of primary enrolment. By 1975 female enrolment constituted 45 per cent of total registration at this level. By 1979, the proportion had risen to 47.2 per cent. This proportion has been maintained nationally and surpassed in many districts. It shows the increased parental willingness to invest in the education of their daughters, at least at this level.

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T A B L E I.

PERCENTAGE OF GIRLS IN PRIMARY SCHOOLS, 1963-1980

Year	Total Number of	Number of girls	Percentage of girls
1963	891,553	304,829	34
1964	1,014,719	357,084	35
1965	1,010,889	379,393	36
1966	1,043,416	379,539	39
1967	1,133,179	443,384	40
1968	1,209,680	484,650	41
1969	1,282,297	519,470	41
1970	1,427,589	591,282	43
1971	1,525,498	644,491	43
1972	1,675,919	719,299	44
1973	1,816,017	790,904	45
1974	2,705,878	1,214,347	45
1975	2,881,155	1,319,654	46
1976	2,894,991	1,340,493	46
1977	2,971,239	1,387,429	47
1978	2,994,991	1,494,500	47
1979	3,698,246	1,744,500	47.2
1980	3,931,500	-	-

Source: Ministry of Education Reports
Central Bureau of Statistics.

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FIGURE 1

PER CENT ENROLMENT OF BOYS AND GIRLS
IN THE PRIMARY SCHOOL 1963 - 1979

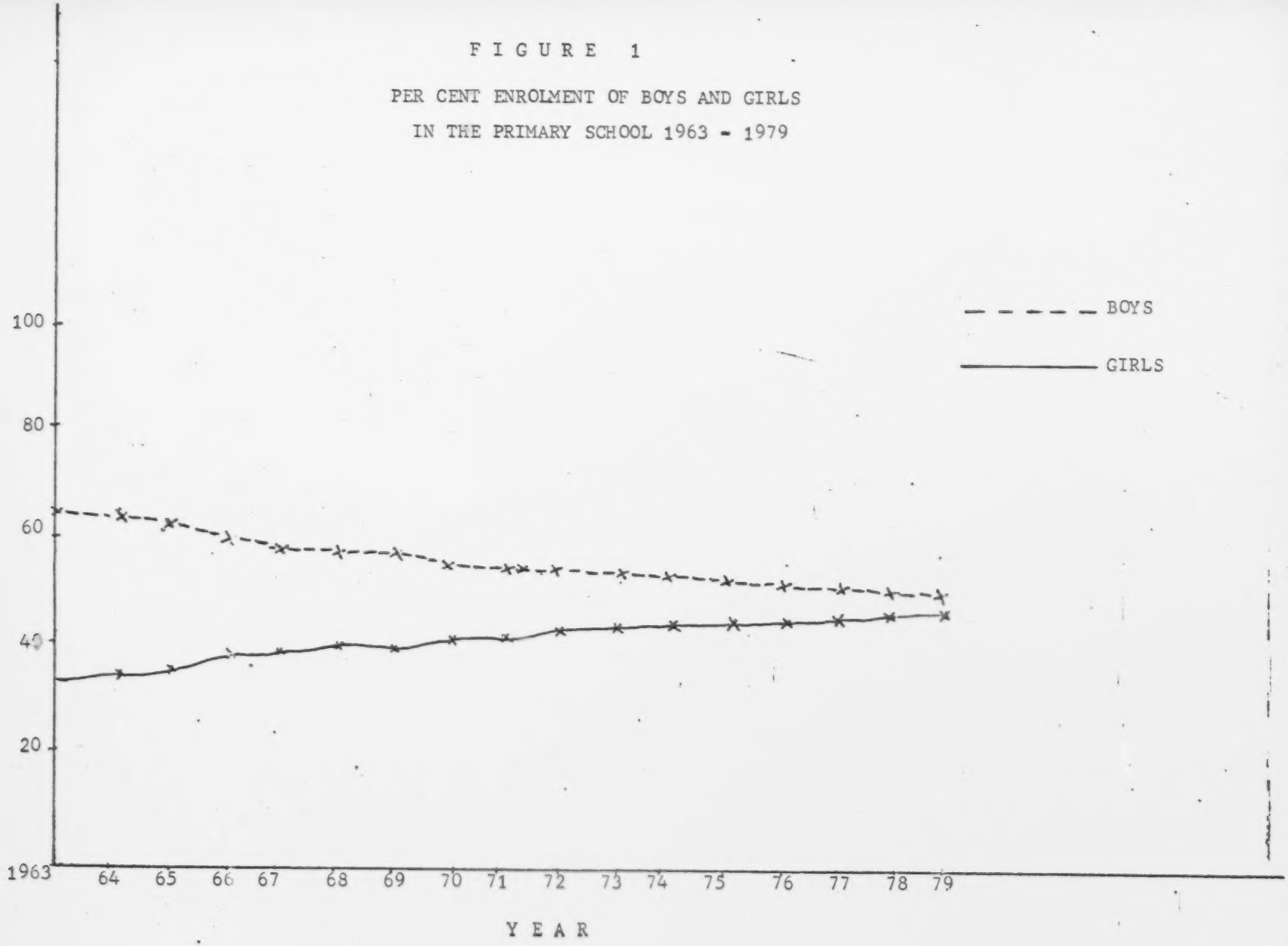

Table II shows the gross enrolment ratios for primary education 1970-1982. According to this table, there has been a considerable decrease in the disparity between the number of boys and girls attending primary school from 1975 to 1984.

T A B L E II

GROSS ENROLMENT RATIOS FOR PRIMARY EDUCATION, BY SEX 1970 - 1982

YEAR	MF	M	F
1970	64.4	75.7	53.2
1975	104.9	114.1	95.7
1976	101.0	108.9	93.1
1977	99.4	106.4	92.4
1978	95.8	102.3	89.3
1979	113.2	119.9	106.4
1980	114.8	121.2	108.3
1981	111.0	116.3	105.6

Source: Enrolment data - Ministry of Education, Science and Technology.

I suggest that among the major factors that cause low educational attainment among girls at primary school level, the following are critical: the need for domestic assistance of daughters, traditional views towards the proper role of women,

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and the misconduct of some female school leavers.

Female enrolment patterns in primary schools in Kenya suggest that when confronted with constraints of limited opportunities or resources for primary schooling, parents have generally favoured the education of male children. Preference for investment in schooling for boys may relate to the patrilineal descent systems in which inheritance passes through the male line in which sons retain responsibility for their parents as they grow older while daughters are incorporated into their husbands' families. The perceived link between education and employment, in an economic system in which males have had better prospects for wage jobs in the formal sector may have provided an additional economic considerations in educating sons ahead of daughters. Moreover, when there are overriding family chores like looking after young children or cooking for the family, it is usually the girls that are taken out of school to perform these duties.

The second important observation regarding female enrolment in the primary schools is the high correlation between opportunities for female primary education and regional economic development. The regions with most employment opportunities and greater agricultural activity, especially of cash crops, are also the regions of greatest educational progress and proportionately greater participation of women in primary education.

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3.2. Regional Disparities

There are considerable regional variations in the enrolment of girls in the primary school. Regions with most employment opportunities and greater agricultural activity, especially of cash crops, are also the regions of greatest educational progress and proportionately greater participation of women in primary education.

Girls are most fully represented in the primary schools of Central and Nairobi Provinces and least well served in North Eastern and Coast Provinces. At the district level girls achieved parity (49-50%) with boys during the 1975-1984 decade in 14 districts: Kiambu (50%), Kirinyaga (49%), Murang'a (50%), Nyandarua (49%), Nyeri (50%), Taita-Taveta (49%), Embu (50%), Machakos (49%), Meru (49%), Kisii (49%), Kitale Municipality (49%), Uasin-Gishu (49%) and Kakamega (49%). At the other extreme, there are 12 districts in which the enrolment of girls in the primary school has remained proportionately low, despite considerable increases in the actual numbers. These districts are: Kilifi (31%), Kwale (37%), Tana River (37%), Isiolo (37%), Marsabit (31%), Garissa (30%), Mandera (19%), Wajir (31%), Narok (36%), West Pokot (36%), Turkana (27%) and Samburu (29%). It is worth noting here that these districts that have relatively low enrolment of girls in the primary school are generally located in the arid and semi-arid parts of Kenya: and in poorer agricultural

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regions where the populations are predominantly pastrolistic. In some of the districts like Kilifi, Kwale and Narok have strong contravailing cultural or religious norms and traditions are major factors that depress female enrolment in the primary school. The Central Bureau of Statistics and UNICEF (Section 3, 1984) have observed that:

> "Economic realities and traditions combine to reinforce the perception that there is no benefit - and often some potential threat - in girls acquisition of formal education. Girls educational opportunities are further constrained by comparative inaccessibility of educational facilities."[1]

During the 1975-1984 decade both the people and the Government of Kenya have played a major role in providing more educational opportunities, especially at the primary school level. This has been in the form of construction of more schools through self-help efforts (Harambee efforts): through provision of teachers and school facilities: and through the provision of boarding primary schools for pastrolistic populations. The provision of these educational opportunities resulted into great gains in the enrolment of girls in the

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[1] CBS and UNICEF: Situation Analysis of Children and Women in Kenya, Section 3 Nairobi, 1984 p.55.

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primary school between 1973 and 1979 as shown in Table III. It is important to note from this table that the largest average increase in female primary school enrolment occured in the districts with the greatest disadvantage in 1973.

3.3.. Girls Access to Primary Education

Standard 1 enrolment figures generally provide a good indication of the status of girls education at a given point in time. Unlike total enrolments which reflect the past as well as the present, Standard 1 enrolment are uncontaminated by factors such as drop-outs and to a lesser extent repetition. Table IV shows Standard One enrolments, population of admission age and apparent intake rates by sex: 1970-1981. Figure 2 illustrates this data more clearly. It is evident from Table IV and Figure 2 that the chances of girls entering primary school (and remaining there) have improved significantly from 1975 to 1984. However, in some areas these chances are still appreciably low. These areas include districts such as Kilifi, Marsabit, Garissa, Mandera, Wajir, West Pokot, Turkana and Samburu.

3.4. The Survival of Girls in the Primary School Cycle

An important question that must be considered along side that of access is the rate at which the educational system retains those who enrol in it.

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TABLE III

HIGH AND LOW OPPORTUNITY DISTRICTS/MUNICIPALITIES FOR GIRLS AT THE PRIMARY LEVEL, 1979

FEMALE PROPORTION OF TOTAL PRIMARY SCHOOL ENROLMENT, 1979 AND 1973

High opportunity districts, 1979 Female = 50–49% Total enrolment	79	73	Gain	Medium opportunity districts, 1979 Female = 48–46% Total enrolment	79	73	Gain	Low opportunity districts, 1979 Female = 45% and below	79	73	Gain
Central Province				Central Province				Coast Province			
Kiambu	50	49	1	Thika Munici.	47	47	–	Lamu	41	28	13*
Kirinyaga	49	46	3					Kilifi	31+	26	5*
Murang'a	50	49	1	Coast Province				Kwale	37+	30	7*
Nyandarua	49	47	2	Mombasa	46	43	3	Tana River	37+	31	6*
Nyeri	50	50	–								
				Eastern Province				Eastern Province			
Coast Province				Kitui	46	39	7	Isiolo	37+	31	6*
Taita/Taveta	49	47	2					Marsabit	31+	26	5*
				Nyanza Province							
Eastern Province				Kisumu Munici.	48	45	3	North Eastern Province			
Embu	50	46	4	Kisumu	46	39	7*	Garissa	30+	18	12*
Machakos	49	45	4	Siaya	47	41	6*	Mandera	19+	14	5*
Meru	49	46	3					Wajir	31+	19	12*
				Rift Valley Province							
Nairobi Province				Baringo	47	42	5	Nyanza Province			
	49	47	2	Eldoret Munici.	48	46	2	South Nyanza	43	35	8*
				Elgeyo Marakwet	47	43	4				
Nyanza Province				Kericho	47	40	7*	Rift Valley Province			
Kisii	49	42	7*	Laikipia	47	45	2	Kajiado	43	40	3
				Nakuru	48	43	5*	Narok	36+	32	4
Rift Valley Province				Nakuru Munici.	48	46	2	West Pokot	36+	31	5*
Kitale Munici.	49	47	2	Nandi	48	42	6*	Turkana	27+	19	8*
Uasin Gishu	49	44	5*	Trans Nzoia	48	40	8*	Samburu	29+	27	2
Western Province				Western Province				Average gain 1973–79 6.5%			
Kakamega	49	46	3	Bungoma	48	43	5				
				Busia	46	40	6*				
Average gain 1973–79 2.8%				Average gain 1973–79 4.4%							

SOURCE: Krystall, 1980. Based on Annual Census of Primary Schools, 1979.

* Districts with greatest gains in enrolment for girls 1973–1979.

\+ Districts with the lowest enrolment (less than 40%).

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In this connection I analysed the flow rates of the 1975 cohort of students by sex up to 1984. The 1975 cohort is now in Form IV in secondary school.

Figure 3 shows the number of students who enrolled in Standard One in 1975 and have survived through the education system to Form IV in 1985. Several inferences can be made from the flow chart in Figure 3 with respect to female drop-out:

(a) In terms of retention, a slightly higher proportion of girls than boys now remains in primary school. However, the number of boys increased significantly at Standard 7 level, suggesting that girls who had not passed the Certificate of Primary Education dropped out of the educational system, but boys who did not pass CPE repeated.

(b) Female wastage is estimated to be at least three times the male wastage rate at primary level. Between 1975 and 1984 the percentage wastage among girls in the primary school was about 26 per cent compared to 7 per cent among boys. It should however be noted that the actual wastage rate for boys could be much higher if the high number of boys who repeat especially in Standard Six and in Standard Seven were to be taken into account.

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(c) Based on data for 1982 only, Certificate of Primary Education eliminates 71 per cent of the girls who sit compared to 67 per cent of the boys who sit. Several factors appear to contribute to this higher female wastage at the CPE level. The higher proportion of male repeaters gives boys an advantage over girls. In addition, girls at primary school tend to have a lower sense of competence compared to boys and have limited ambition for higher education. These characteristics could be products of the school system which overtly favours boys especially in subjects like mathematics. Furthermore, greater demands are made on female children to assist with household chores, to care for younger sibblings and fetch firewood and water, and this work may interfere with schooling and depress female performance at the primary level.

(d) The proportion of girls entering Form I has risen steadily. This proportion has risen from 33.7 per cent in 1976 to over 40 per cent in 1983. However, by the time a class enters Form I, approximately 76 per cent of the girls who entered Standard One have been eliminated from the formal education system compared to 66 per cent of boys.

A further statistic that shows the severity of the female elimination from the primary educational cycle is the number of pupils who registered for the Certificate of Primary Education in 1983.

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TABLE IV

NEW ENTRANTS, POPULATION OF ADMISSION AGE AND APPARENT INTAKE RATES, BY SEX. 1970-1981.

KENYA

Year	New Entrants		Population Aged 6 years		Apparent Intake Rate	
	Boys	Girls	Boys	Girls	Boys	Girls
1970	160,329	127,122	184,100	185,100	0.871	0.687
1971	165,616	130,973	192,500	193,600	0.860	0.677
1972	191,568	154,745	200,500	197,200	0.956	0.785
1973	200,314	166,458	207,600	205,800	0.965	0.809
1974	...	...	215,400	215,300	...	...
1975	...	...	224,100	225,700	...	...
1976	...	...	235,100	236,700	...	...
1977	299,992	268,259	247,400	245,400	1.213	1.093
1978	297,489	264,266	258,300	257,600	1.152	1.026
1979	...	...	270,200	270,600	...	...
1980	330,616	318,940	283,100	284,500	1.168	1.121
1981	371,336	350,097	297,700	298,900	1.247	1.171

Source: New entrants: Calculated from data on enrolment and repeaters by grade supplied by the Statistics Unit, Ministry of Education, Science and Technology.

Apparent Intake Ratio to Grade 1 of Primary Education
Boys and Girls. Kenya. 1970-1981

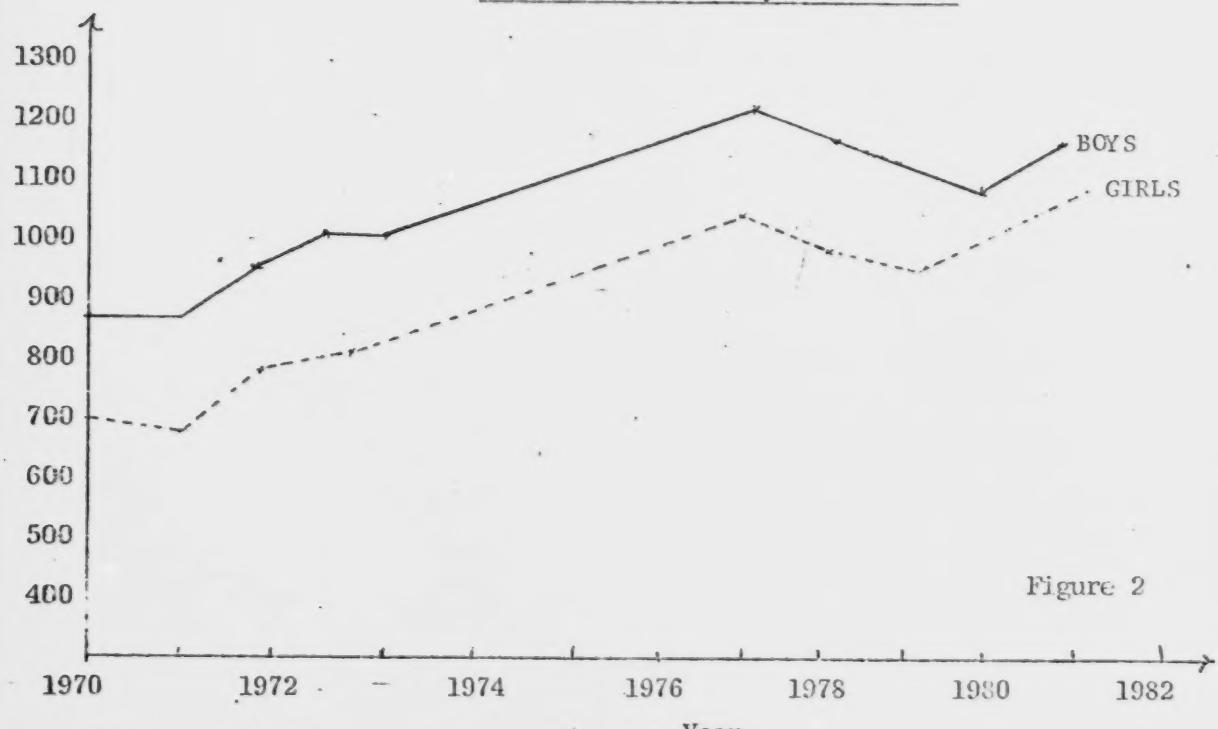

Figure 2

Source: Table IV

FLOW RATE OF STUDENTS FROM STD. 1 (1975) THROUGH SECONDARY SCHOOL TO UNIVERSITY (1984)

FIGURE 3

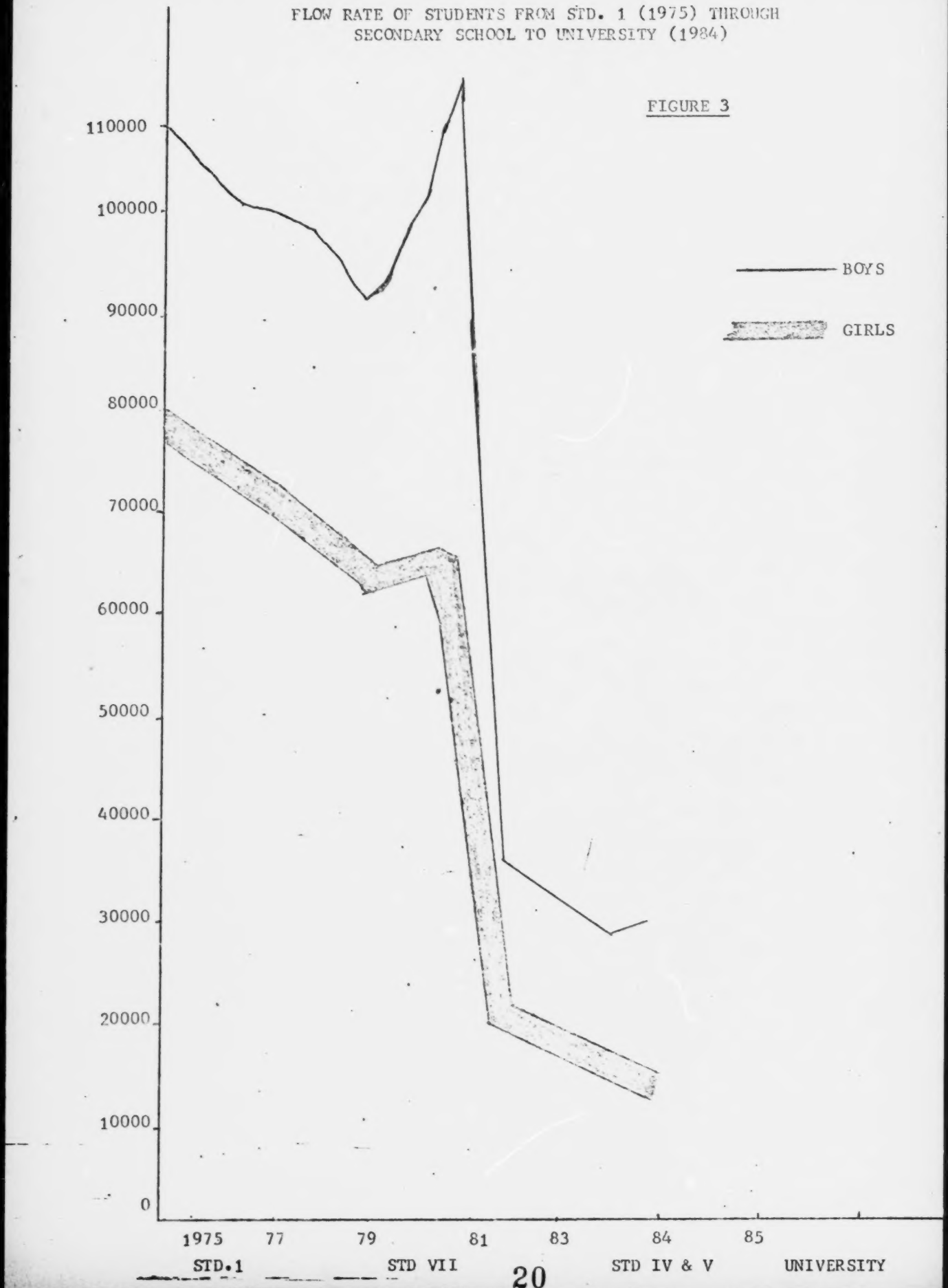

Table V shows the enrolment of boys and girls in the CPE of 1983 by Province and District. It is evident from this table that survival rates for girls in the primary school cycle is at par with that of boys in only 12 districts: Taita-Taveta, Nyandarua, Nyeri, Kirinyaga, Murang'a, Kiambu, Thika Municipality, Embu, Meru, Nakuru Municipality, and Kakamega. In 11 of the districts, however, the ratio of boys to girls is less than .5. The lower enrolment figures cannot be due to poverty, in which case a choice would be made to send sons to school instead of daughters. Primary education is now free. They cannot be due to lack of educational opportunity either because all primary schools are co-educational.

Some of the explanations given by various respondents in this study included negative attitudes towards educated women, early marriages for girls, withdrawal of girls from school to help in family chores, mistrust of school discipline. It is difficult, however, to generalise any of these explanations to the whole country. The drier parts of the country do have consistently lower enrolment figures for girls, perhaps because girls are needed to go in search of food and water. It is difficult, however, to explain why the enrolment ratios are so much higher for Taita than for Kilifi while both districts have a very similar cultural and economic outlook.

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T A B L E V

CERTIFICATE OF PRIMARY EDUCATION
ENROLMENT 1983 BY PROVINCE AND BY SEX

PROVINCE/DISTRICT	BOYS	GIRLS	RATIO F-M
COAST			
Taita/Taveta	2303	2002	0.86
Kilifi	4500	1645	0.36
Tana River	757	339	0.44
Lamu	526	270	0.51
Kwale	2949	1539	0.52
Mombasa Municipality	2599	1981	0.76
TOTALS	13634	7776	0.57
CENTRAL			
Nyandarua	3980	3216	0.80
Nyeri	8722	8692	0.99
Kirinyaga	4754	4234	0.89
Murang'a	9100	7478	0.82
Kiambu	11008	10277	0.93
Thika Municipality	389	357	0.91
TOTALS	37953	34254	0.90
EASTERN			
Machakos	14759	11225	0.76
Kitui	7539	5458	0.72
Embu	4352	4170	0.96
Meru	10679	9472	0.88
Marsabit	372	118	0.31
Isiolo	445	209	0.46
TOTALS	38146	30652	0.80
NAIROBI PROVINCE	6507	5989	0.80

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PROVINCE/DISTRICT	BOYS	GIRLS	RATIO F-M
RIFT VALLEY			
Turkana	408	146	0.35
Samburu	399	128	0.32
Trans-Nzoia	3618	2443	0.67
West Pokot	1381	690	0.52
Nakuru Municipality	1083	891	0.82
Eldoret Municipality	469	335	0.71
Nakuru	6199	4560	0.73
Kericho	11524	7050	0.61
Nandi	3837	2602	0.67
Laikipia	2199	1640	0.75
Kajiado	1508	1035	0.68
Narok	1645	651	0.40
Baringo	2822	2082	0.74
Keryo Marakwet	2379	1746	0.73
Uasin Gishu	3690	3129	0.84
TOTALS	43161	29128	0.67
WESTERN			
Busia	4180	2590	0.62
Bungoma	8364	6448	0.77
Kakamega	13301	12127	0.91
TOTALS	25845	21165	0.82
NYANZA			
Kisumu	6775	3982	0.58
Kisumu Municipality	1364	1042	0.76
Kisii	11976	9039	0.75
South Nyanza	12105	5630	0.45
Siaya	7493	4649	0.62
TOTALS	39713	24343	0.61
EASTERN			
Garissa	299	113	0.37
Wajir	238	87	0.36
Mandera	214	28	0.13
TOTALS	751	228	0.30

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3.5. The Achievement of Girls at Primary School Level

Data on performance at CPE reveals some interesting and, at times, contradictory trends. On the whole, girls perform more poorly than boys in all CPE subjects. When this data is disaggregated into districts, however, interesting relationships between enrolment and performance emerge. Tables VI(a) and VI(b) show the performance of boys and girls in all subjects in 1980 to 1982. These Tables show that girls perform more poorly than boys in all the CPE papers. The gap is smallest in English and widest in Mathematics. In certain districts, however, the gap is very narrow. These are districts such as Lamu, Samburu and Turkana, where the enrolment ratios for girls are quite low. One would have expected narrower performance gaps where enrolment is near parity and where the classroom atmosphere, therefore, would be less 'male dominated'. That this is not the case would perhaps indicate that in districts where very few girls sit for CPE, it is only the best and most determined who survive, hence the better performance.

Another theory that is contradicted by these data is that girls perform well where there is high quality teaching. The huge performance gaps (particularly in Mathematics and Science) observed in Nyeri, Siaya and Murang'a, the three best rural districts in CPE, do not seem to bear this out.

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Krystall (1978) has observed that the higher proportion of male repeaters gives boys an advantage over girls. In addition, the higher proportion of male repeaters suggests greater parental concern for their sons to advance to higher educational levels. This concern may translate itself in a lowered sense of competence or more limited aspirations among girls. It may also translate itself in a greater willingness to excuse boys from household responsibilities so that they can study. Schools may also contribute to poor performance by girls through prejudices and stereotyping in the classroom.

T A B L E VI(a)

CPE 1980-82: Performance of Boys and Girls

	1982			1981			1980		
	Boys	Girls	Gap	Boys	Girls	Gap	Boys	Girls	Gap
English	51.1%	47.8%	3.3%	48.9%	43.6%	5.3%	44.9%	41.9%	3.0%
Science	46.4%	39.9%	6.5%	43.5%	37.3%	6.2%	48.3%	42.4%	5.9%
History	38.7%	33.0%	5.7%	43.8%	38.4%	5.5%	43.3%	36.4%	6.9%
Geography	45.2%	38.6%	6.6%	47.7%	41.0%	6.8%	45.6%	37.2%	8.4%
Mathematics	52.1%	42.6%	9.4%	44.2%	36.4%	7.8%	48.9%	40.5%	8.4%

Source: CPE Newsletter

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T A B L E VI(b)

CPE 1981 Performance of Boys and Girls in Districts

DISTRICT		ENGLISH			MATHS			GENERAL		
		Boys	Girls	Diff.	Boys	Girls	Diff.	Boys	Girls	Diff.
11	Tana	54.30	52.08	2.22	53.61	48.32	5.29	53.85	48.41	5.44
12	Kilifi	52.75	46.69	6.06	52.48	45.64	6.84	51.80	45.41	6.39
13	Tana River	52.71	46.99	5.72	52.61	44.17	8.44	53.87	46.06	7.81
14	Lamu	45.27	43.29	1.98	49.48	46.03	3.45	50.22	46.34	3.88
15	Kwale	50.54	46.04	4.5	49.12	42.48	6.64	50.49	44.58	5.91
21	Nyandarua	54.05	49.10	9.16	56.20	48.20	8.00	55.09	47.84	7.25
22	Nyeri	55.13	53.65	1.48	58.46	52.30	6.16	56.96	50.85	6.11
23	Kirinyaga	54.02	51.46	2.56	57.50	50.86	6.64	56.56	50.09	6.47
24	Murang'a	53.77	50.72	3.05	58.42	51.65	6.77	56.25	49.95	6.3
25	Kiambu	50.76	48.95	1.84	54.83	48.14	6.69	53.80	47.93	5.87
.	Machakos	50.51	46.08	4.43	51.04	43.98	7.06	51.97	45.46	6.51
32	Kitui	49.53	42.82	6.71	50.55	42.11	8.44	50.87	43.34	7.53
33	Embu	49.43	47.89	1.54	52.98	46.89	6.09	52.98	47.80	5.18
34	Meru	47.39	44.95	2.44	49.68	43.61	6.07	50.70	45.26	5.44
35	Marsabit	54.64	46.50	8.14	54.88	41.95	12.93	52.73	44.78	7.95
36	Isiolo	51.15	48.10	6.05	49.33	42.15	7.18	50.22	45.05	5.17
37	Machakos	50.21	45.87	4.34	52.04	44.48	7.56	52.71	45.80	6.91
501	Turkana	49.55	47.32	2.23	46.43	42.85	3.58	47.42	46.51	0.91
502	Samburu	50.73	49.49	1.24	48.92	44.34	4.58	52.29	47.70	4.59
503	Trans Nzoia	52.00	47.64	4.36	52.66	44.97	7.69	52.41	45.69	6.72
505	West Pokot	50.72	48.55	2.17	50.22	42.96	7.26	50.92	45.65	5.27
51	Nakuru	54.10	50.22	3.88	52.96	45.45	7.51	53.61	46.94	6.67
52	Kericho	50.08	44.80	5.28	54.22	44.88	9.34	52.46	44.94	7.52
53	Nandi	51.85	48.19	3.66	53.92	46.17	7.75	53.20	46.36	6.84
54	Laikipia	54.98	51.88	3.1	55.79	48.28	7.51	55.56	49.06	6.5
55	Kajiado	50.60	47.45	3.15	48.58	42.89	5.69	51.12	44.92	6.2
56	Narok	47.51	45.95	1.56	49.13	42.13	7.00	50.31	44.74	5.6
57	Baringo	51.89	50.26	1.63	53.92	46.88	7.04	53.06	47.69	5.37
58	Keiyo Marakwet	51.36	47.82	3.54	53.71	45.07	7.85	53.37	46.79	6.58
59	Uasin Gishu	54.80	51.05	3.75	54.00	45.85	8.15	54.80	47.52	7.28
61	Busia	50.45	48.43	2.02	48.42	43.51	4.91	49.78	44.55	5.23
62	Bungoma	45.39	42.09	3.3	47.50	41.41	6.09	48.17	42.63	5.54
63	Kakamega	51.46	49.39	2.07	49.99	45.06	4.93	50.82	45.55	5.27
71	Kisumu	55.67	49.72	5.95	55.59	46.55	9.01	54.06	46.39	7.67
73	Gusii	45.00	40.79	4.21	48.48	42.92	5.56	48.16	42.57	5.59
74	South Nyanza	48.88	45.29	3.59	50.09	44.53	5.56	50.22	45.20	5.02
75	Siaya	56.28	52.69	3.59	56.92	49.49	7.43	54.43	48.01	6.42
81	Garissa	53.25	49.51	3.74	50.21	43.55	6.66	51.32	45.60	5.72
82	Wajir	46.02	38.77	7.25	50.24	39.29	10.95	49.28	40.62	8.66
83	Mandera	47.09	38.33	8.76	47.46	39.82	7.64	47.51	43.05	4.46

Source: CPE Newsletter

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3.6. Girls Participation in Secondary Education

The number of girls attending secondary school has risen steadily during the past ten years. Table VII shows enrolment of girls in secondary schools from 1963 to 1984. Several inferences can be drawn from the data represented in this Table. First, although the rise in the number of girls attending secondary school is impressive, it is not as significant as the rise in the number of girls attending primary school. Secondly, as a historical note, the proportion of girls in secondary school in Forms I - IV actually declined from 32 per cent in 1963 to a record low of 25 per cent in 1967 and to 31 per cent in 1970. Since 1973 the proportion of girls in the secondary education cycle has improved from 33 per cent to over 40 per cent in 1984. Similarly, the proportion of girls enrolled in Forms V - VI has increased steadily from 24 per cent in 1973 to nearly 30 per cent in 1984. Figure 4 shows clearly that the rate of increase in the number of girls attending secondary school, both in the Forms I - IV cycle and Form V - VI cycle, has been modest.

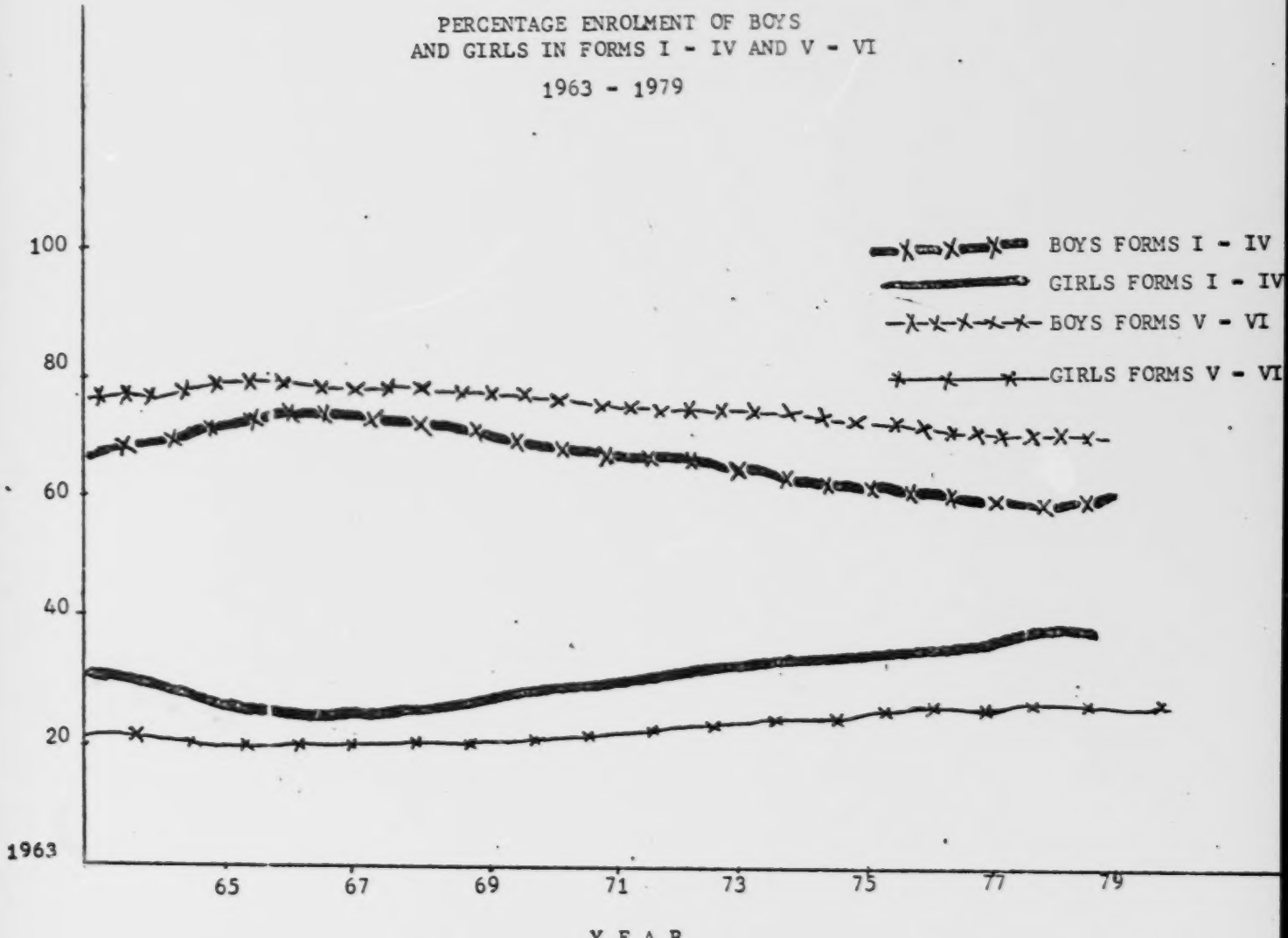
T A B L E VII

FEMALE ENROLMENT IN SECONDARY SCHOOLS IN KENYA: 1963-1979

YEAR	NUMBER	PER CENT FORMS I-IV	PER CENT FORMS V-VI
1963	9,567	32	23
1964	10,710	30	23
1965	13,256	28	20
1966	16,391	26	20
1967	22,387	25	21
1968	26,159	26	21
1969	32,160	28	22
1970	37,528	30	22
1971	42,743	31	23
1972	50,615	32	24
1973	57,543	33	24
1974	67,111	35	25
1975	81,259	36	26
1976	103,665	37	28
1977	122,756	38	27
1978	144,723	40	28
1979	154,847	39	27
1980	-	-	-
1981	-	-	-
1982	-	-	-
1983	-	-	-
1984	-	-	-

FIGURE 4

PERCENTAGE ENROLMENT OF BOYS
AND GIRLS IN FORMS I - IV AND V - VI
1963 - 1979



Enrolment ratios are the most commonly used indicators for assessing a country's coverage of enrolment at a particular level or of a particular social group. Table VIII shows the gross enrolment ratios for secondary education by sex for the period 1970 to 1982. The enrolment ratios for the two secondary school stages, Forms I-IV and Forms V-VI, show a very modest increase for girls between 1975 and 1984. On a more positive note, it should be pointed out that the enrolment ratio for secondary education in Kenya is higher than that of most African countries. Figure 5 illustrates this fact. It can be concluded that in comparison with other African countries, Kenya has faired very well in the number of girls attending secondary school during the past decade.

The disparity between boys and girls in secondary school education may be explained by several factors. However, the main factor seems to be the provision of school places for girls. Unlike the primary education, secondary school education in Kenya is not co-educational. Since the colonial times the trend has been to have separate schools for boys and girls. This may not be itself a bad idea, except that the number of boys' schools far exceeds the number of girls' schools.

In 1975 there were almost three times the number of Government secondary schools for boys than for girls; boys' schools, 235; girls' schools, 82; mixed, 47. In that year the Kenya Government

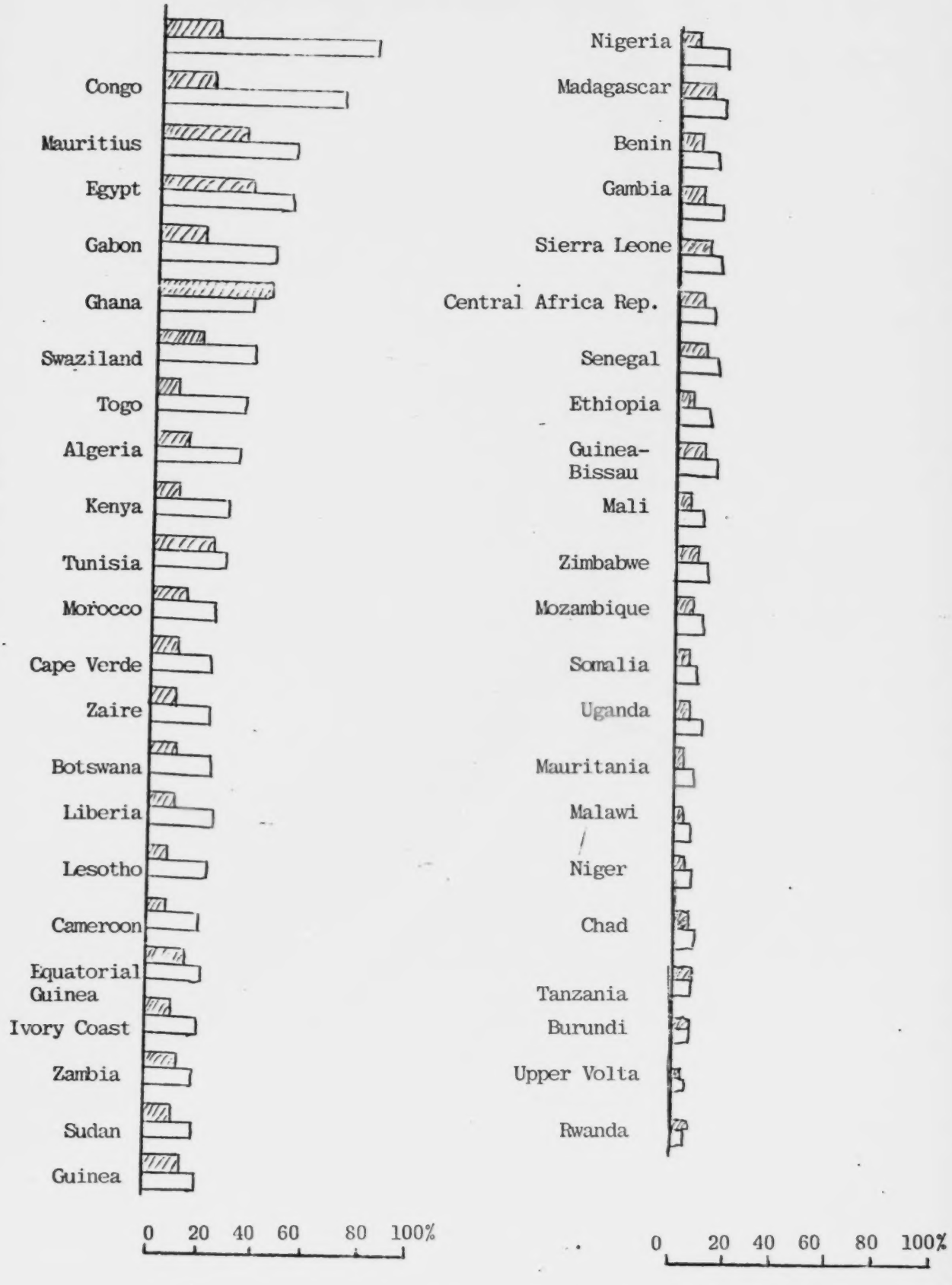
T A B L E VIII

GROSS ENROLMENT RATIOS FOR SECONDARY EDUCATION BY SEX 1970-1982

YEAR	FORMS I-IV			FORMS V-VI		
	MF	M	F	MF	M	F
1970	12.7	17.9	7.6	1.1	1.7	0.5
1975	18.0	23.1	13.1	1.7	2.6	0.9
1976	21.3	26.9	15.9	1.8	2.7	1.0
1977	23.3	28.7	18.0	1.8	2.7	1.0
1978	25.2	30.2	20.3	2.0	2.9	1.1
1979	25.5	30.2	20.9	2.6	3.6	1.6
1980	26.3	31.1	21.6	3.1	4.4	1.9
1981	28.3	34.1	22.5	3.4	4.2	2.7

Source: Ministry of Education, Science and Technology

FIGURE 5: Gross Enrolment Ratios for Second Level Education, 1970 and 1980
(Countries are ranked according to the 1980 ratio).



Source: Unesco Office of Statistics

took a decision to 'freeze' the expansion of the maintained schools in order to up-grade the rapidly growing numbers of unaided schools (mainly Harambee). This resulted into a slight increase in the proportion of girls' maintained schools and a significant rise in female secondary school enrolment(See Table IX). Thus the growth of female secondary school enrolment that occured during the period 1975 to 1984 was primarily a growth in Harambee school enrolment. In 1979 Government secondary schools (maintained) absorbed 45 per cent of the male school intake compared to less than one third of the female intake.

T A B L E IX

PROPORTIONATE DISTRIBUTION OF GIRLS AND BOYS BY TYPE OF SECONDARY SCHOOL, 1979

	MAINTAINED	ASSISTED	UNAIDED
BOYS	68%	50%	55%
GIRLS	32	50	40

Maintained secondary schools provide a higher quality of education at lower costs than unaided secondary schools (mainly Harambee and Private Schools). The fact that parents have continued to send their daughters to the less endowed schools demonstrates the parental attitude change that has taken place during the past decade towards women's

education. This parental attitude change was confirmed through interviews with a cross-section of women leaders. It was however, pointed out to me that there are areas in Kenya where the parental attitudes towards the education of women is still very negative. Some of these areas are among the districts where the enrolment of girls in the primary school is very low.

In recent years the Kenya Government has emphasized science education especially in the second cycle of the secondary school (Forms V-VI) and at the University. A study of the curriculum options in the Sixth Form schools reveals that most of the places available to girls are in the Arts subjects like History, Geography, Religious Studies, e.t.c. Boys have proportionately greater access to schools offering courses in sciences and mathematics. Whereas the number of Arts streams for boys and girls have been nearly equal over the past few years, the proportion of the science streams has been heavily askewed towards boys. There are about five science streams for boys to one science gor girls. This imbalance means that the chances of girls studying science or science-related subjects are very limited. The situation is made worse by the fact that there are no strong science programmes in most girls secondary schools; and in most unaided schools, where enrolment of girls is quite high, no science programmes are offered. It is therefore not surprising that the few science places that are

available to girls in Forms V and VI are not fully utilised. Where these places are filled, it is usually with weak candidates, especially in Physics and Mathematics.

Another area of concern in women's education at the secondary school level is their access to technical and vocational education. None of the technical and vocational secondary schools admits female students. This is an imbalance that can no longer be defended by educational planners.

3.7. Girls Access to Secondary Education

In section 3.3 we noted that initial enrolment in any educational cycle may be used as an indicator for a group's access to that cycle. Table X shows the proportion of Forms I and V entrants by sex for the years 1963 to 1984.

Two conclusions can be drawn from Table X. First, although the access of girls to secondary education has improved with time, boys seem to have a major advantage over them especially in Form V. Secondly, obviously there is an obvious attempt by the Ministry of Education to hold down the proportion of boys entering Forms I and V while raising the proportion of girls.

Some of the factors that are responsible for the low access of girls to secondary education were discussed in Section 3.6. Table XI shows that

TABLE X
FORM 1 AND FORM V ENROLMENT BY SEX 1974 - 1984

YEARS	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
FORM 1 %	62.2	60.8	59.2	58.2	56.5	56.5	57.3	56.9	59	59.5	-
MALE NO.	40,243	44,806	56,444	61,943	59,160	60,618	67,037	70,196	76,467	83,090	-
%	37.8	39.2	40.5	41.8	43.5	43.5	42.7	43.1	41	40.5	-
FEMALE NO.	24,463	28,884	38,390	44,553	45,573	46,709	49,863	53,264	53,137	56,524	-
FORM V %	73.7	73.7	70.8	72.6	71.4	68.6	70.02	69.1	65	59.5	
MALE NO.	3,046	3,534	3,689	3,803	5,027	5,877	7,860	7,733	6,878	6,876	-
%	26.3	26.3	29.2	27.4	28.6	31.4	29.98	30.9	35	40.5	
FEMALE NO.	1,089	1,258	1,519	1,437	2,012	2,691	3,366	3,453	3,705	4,678	-

Source: Ministry of Education, Science and Technology

while girls have access to the unaided secondary schools, their access to the maintained schools is limited. Thus the structure of secondary school opportunities seriously disadvantages girls. This factor has a serious implication on regional distribution of secondary education among girls.

Girls from less economically developed regions and less affluent families have little chance of receiving secondary education. The Central Bureau of Statistics and UNICEF (1984) have observed that, unlike maintained schools which have national or provincial intakes, the catchment area of Harambee Secondary Schools usually is confined to the district or sub-district units. Because of the limited availability of places in maintained schools, a majority of girls who have completed primary school and passed their end-of-primary examination credibly thus must depend upon the initiative, resources and self-help priorities of their local communities to have even a possibility of continuing their education. It is not surprising therefore that districts which have a comperatively high levels of educational-economic development maintain an advantage in the access of girls to secondary education.

T A B L E XI

PROPORTIONATE DISTRIBUTION OF FORM I ENTRANTS BY TYPE OF SECONDARY SCHOOL 1979

TYPE OF SCHOOL	BOYS %	GIRLS %
Maintained	45	31
Assisted	20	22
Unaided	35	47

Source: Annual Report, Ministry of Education 1979

3.8. The Survival of girls in the Secondary School

The proportion of girls who survive in the secondary school in Kenya is much than that of boys. Overall, only a slightly more than half the female secondary school entrants remain to Form IV. Table XII shows the per centage of Form I intake in 1973 who were retained in the secondary school cycle up to 1979. It is evident from this table that the highest attrition rates were experienced in the unaided schools than in the maintained schools. While 60 per cent of the girls in the unaided - Harambee schools dropped out of school between Forms I and III, only 20 per cent of the girls in maintained schools dropped out.

Between Forms I and IV a greater proportion of girls than boys drop out of the educational system. Fourty four per cent of the girls who entered Form I in 1973 were lost from the system by the time their class entered Form IV in 1976 as compared to 27 per cent of the boys. Among the many factors that contribute to this high drop-out rate among girls at the secondary school level, premarital pregnancy is a major factor. Interview with a few Headmistresses revealed that over 10 per cent of female students are lost from the secondary school system every year through pregnancies. To arrest this wastage the practice of forcing a pregnant girl to terminate her education

without providing other avenues of mobility should be reconsidered. Sex education that has a component of formal and informal education, shared between teachers, the Family Planning Association and elders within the communities where the schools are placed should be introduced as soon as possible. Most of the women leaders we interviewed called for an end to the practice of forcing a pregnant girl to completely abandon her educational career. The second explanation for the high attrition rates among girls has to do with the high cost of education especially in the unaided schools. Smock (1977) discusses the influence of sex on the financing of education by parents. She observes:

> ".....Parents, when forced to choose, prefer to educate sons ..... secondary school costs eliminate a large number of females than males from poorer and less educated families."

The largest drop-out occurs between Form IV and Form V after the O-level Examinations. Overall only 8 per cent of boys who started in Form I in 1973 reached Form VI in 1976 compared to only 4 per cent of girls. Expressed in a different way, 92 per cent of boys who started in Form I in 1973 had dropped out of the system by 1978 and 96 per cent of girls had dropped out. The difference in the drop-out rates between Forms IV and V is large for both boys and girls. However, the difference between boys and girls at this level is not too large.

T A B L E XII

PER CENTAGE FORM I INTAKE RETAINED,
BY FORM, SCHOOL TYPE AND SEX 1973-1979

FORM	MAINTAINED		ASSISTED		UNAIDED		TOTAL	
	M	F	M	F	M	F	M	F
I	100%	100%	100%	100%	100%	100%	100%	100%
II	95	93	92	81	86	83	91	88
III	94	93	93	89	73	61	86	77
IV	90	81	70	59	57	40	73	56
V	20	18	2	0.4	3	2	10	6
VI	17	16	1	0.1	2	1	8	4

Source: Annual Report Ministry of Education

3.9. Achievement of Girls in Secondary Schools

The Kenya Certificate of Education (O-levels) is an important examination. It determines the number of girls (and boys) who can go on to higher education and those who can take advantage of various training

and employment opportunities. One important indicator of attainment of girls is the number of girls who register for various subjects at this level. Although this number has been rising steadily in most subjects over the last ten years, the entry of girls in the science subjects has shown little improvement. I suspect that if mathematics was not compulsory, the enrolment of girls in this subject would be equally low.

Table XIII shows the proportion of enrolment of girls in various subjects and their performance in these subjects. Subjects that are taken by most girls (more than 60%) at school are English Language (100%), Literature in English (62%), Christian Religious Education (86%), Geography (90%), Lugha ya Kiswahili (80%), History (60%) and Mathematics (99%). At the other extreme, the following subjects are least subscribed to by the girls: Physics (Less than 2%), Chemistry (3%) Agriculture (Less than 2%), Cloth and Textile (3%), Foods and Nutrition (Less than 2%) and Home Management (3%).

The entry requirements for KCE stipulate that all candidates must take English Language, Mathematics, a humanity and a Science. Most girls opt for CRE and Geography from the humanities and Biology or General Science from the Sciences. Only about 1% of all the girls opt for Physics, Chemistry or Agriculture. This is as compared to 18.95%, 33.75% and 9.36% of the boys in those three subjects.

Performance in these subjects shows a great deal of variation. In Table XIV it can be seen that, the only subjects girls perform better at than boys is Literature in English (26.04%) and CRE (40.68%). After that their performance deteriorates down the line to the sciences with the poorest performance being in General Science (4.13%) and Mathematics (6.54%).

Some of the reasons given for such poor performance is lack of good teachers and facilities particularly in the sciences in girls schools, negative attitudes towards girls ability in maths and science by teachers and the society in general, biases against girls in the examination questions. These factors seem to create such a complex interrelationship of disadvantages for girls that it is difficult to separate them (Eshiwani; 1983).

T A B L E XIII

PROPORTION OF ENROLMENT OF GIRLS IN VARIOUS SUBJECTS AND THEIR PERFORMANCE (1982)

Subject	% girls of entry	% girls of all grades 1-6	% of all girls taking subjects
English Language	38.58	38.89	100
Lit. in English	48.24	53.76	62.68
CRE	42.42	43.55	86.63
History	39.70	35.68	58.36
Geography	37.25	25.30	90.26
Lugha ya Kiswahili	37.97	33.30	80.01
Mathematics	38.58	20.18	99.93
General Science	42.13	18.62	40.24
Physical Science	27.58	22.07	17.05
Physics	18.95	13.02	1.96
SSP Physics	22.56	16.51	1.02
Chemistry	23.88	21.00	3.24
SSP Chemistry	33.75	26.35	1.68
Biology	37.24	29.93	50.95
SSP Biology	37.07	26.11	6.26
Agriculture	9.36	4.44	1.63
Cloth & Textile	100	100	3.13
Foods & Nutrition	100	100	1.58
Home Management	100	100	2.68

Source: Ministry of Education, Science and Technology

TABLE XIV

KCE 1982 CANDIDATES OBTAINING GRADES 1-6 IN VARIOUS SUBJECTS

Subject	GIRLS			BOYS		
	Entry	No. obtaining Grade 1-6	% with Grade 1-6	Entry	No. obtaining Grade 1-6	% with Grade 1-6
Eng. Language	35135	5384	15.32	55936	8461	15.13
Lit. in Eng.	22024	5735	26.04	23633	4932	20.87
C.R.E.	30439	12384	40.68	41319	16051	38.85
History	20505	3210	15.65	31146	5786	18.58
Geography	31712	5566	17.55	53425	16431	30.76
Lugha ya Kiswahili	28112	6768	24.08	45920	13555	29.52
Mathematics	35111	2295	6.54	55893	9077	16.24
General Sc.	14139	584	4.13	19418	2553	13.15
Physical Sc.	5991	1389	23.18	15731	4905	31.18
Physics	687	153	22.27	2938	1022	28.19
SSP Physics	360	142	39.44	1236	718	58.09
Chemistry	1140	451	39.56	3634	1697	46.70
SSP Chemistry	591	229	38.75	1160	640	55.17
Biology	17900	3056	17.07	30172	7155	23.71
SSP Biology	2198	505	22.98	3731	1429	38.30
Agriculture	574	97	16.90	5560	2086	37.52
Cloth. & Tex.	1099	253	23.02	-	-	-
Foods & Nut.	556	301	54.14	-	-	-
Home Management	943	326	34.57	-	-	-

Source: Ministry of Education, Science and Technology

Science Education:

Inequalities that build up over the eleven years of school up to form four create a vicious cycle that militates against girls in higher education. Table XV below gives the breakdown of girls who can do A-level science.

TABLE XV

OPPORTUNITIES FOR KACE IN SCIENCE SUBJECTS IN 1983

A-level subject	% of girls who are barred by their KCE subjects	% of girls who qualify grades 1-6	% of girls who qualify grades 1-4
Maths	0	6.53(2295)	2.57(902)
Physics	79.66	4.82(1693)	0.78(273)
Chemistry	77.72	5.91(2078)	1.35(475)
Biology	57.21	10.13(3559)	3.35(1176)

Source: Kenya National Exams Council

As can be seen from this table, the early streaming at form one and again at form three into the various science streams, automatically bars a large percentage of girls from a study of science. As many as 79.60% of the girls cannot ever expect to do A-level Physics. Coupled with this is the fact that so few of the girls pass sufficiently well to attain a credit pass, the

minimum for form five entry. Only 4.82% for example qualified in 1982 for A-level Physics. As was observed in Table XIV girls performance is poorer in virtually all the subjects.

The education system, perhaps unconsciously, avails form five places accordingly. Table XVI gives a breakdown of streams available in form five in 1983 (source Careers Booklet 1983).

TABLE XVI

NUMBER OF A-LEVEL STREAMS FOR BOYS AND GIRLS (1983)

	Science	Arts	Total Streams
Girls	34	61	95
Boys	113	70	183
Mixed	35	22	57

Source: Kenya National Examinations Council

Each stream has on the average, 35 students. In 1981 3029 girls sat for the Kenya Advanced Certificate of Education as compared to 8489 boys.

Earlier in this section, we noted that O-level examinations are very important because they are a gateway to higher education and to employment opportunities in the modern sector. It is with this in

mind that we conclude this section with some general observations.

Girls are systematically eliminated from the education system. The increase in overall enrolment figures camouflages the continuted inequalities between boys and girls. As increasing emphasis is laid on technical education, these inequalities need to be highlighted because they will become exaggerated. At the moment girls are virtually barred from technical education. Very small numbers are allowed to take mechanical technology (2 girls out of nearly 400 boys in 1983) electrical application (4 girls out of 284 boys) but none of the other technical courses. The only 'technical' subject they take freely is Fashion and Tailoring. There seems to be a belief, very strongly embedded in the system, that girls should take only those courses that are considered suitable for women and reconcilable with the demands of family life.

Finally, it is worth noting that when girls have been provided with the right learning climate, they generally excell. During the past ten years, the number of girls schools which have been among the top ten schools in the Kenya Certificate of Education has been rising steadily. In the 1984 Kenya Certificate of Education, out of the ten top schools, six were girls' schools. These girls' schools have been endowed with good facilities, good teaching staff and excellent leadership.

3.10. Girls Participation in University Education

The data reported here strictly concerns the number of University students enrolled at the University of Nairobi and its constituent Kenyatta University College. There are many Kenyan University students studying in foreign countries like India, Canada and United Kingdom. No effort was made to obtain data on these students since it was felt that the proportion of Kenyan women studying abroad was negligible.

In 1973, 15 per cent of the students at the University of Nairobi were women. In her paper entitled "The Education of Women Since Independence", Krystall observed that these women were enrolled primarily in the Faculty of Arts, in the Faculty of Education (Arts) and in the department of Advanced Nursing. Women were significantly under-represented in the Faculties which require science combinations for admission. We set out to examine women enrolment at University with these observations in mind. What follows is an analysis of women enrolment at the University of Nairobi for the years 1970 to 1982 in various Faculties.

(a) Female Enrolment in the Faculty of Agriculture

Figure 6 shows the enrolment pattern in the Faculty of Agriculture from 1970 to 1980. It indicates that the number of female students has risen gradually from 5 students in 1971 to 62 in 1980. An increase of 92 per cent is significant. However, in terms of absolute numbers male students far outnumber

female students by a ratio of 3:1. There are two major factors which seem to have contributed to more girls wanting to study agriculture. First, Egerton College gave a lead in admitting girls to study agricultural subjects leading to a diploma certificate. This might have had a positive influence on the girls still at school to study agriculture. Secondly, the subject combinations required for agriculture include biology, chemistry and geography. A study of subject choices among the science female students in Forms V and VI shows that biology and chemistry are the most preferred subjects.

(b) Female Enrolment in the Faculty of Architecture

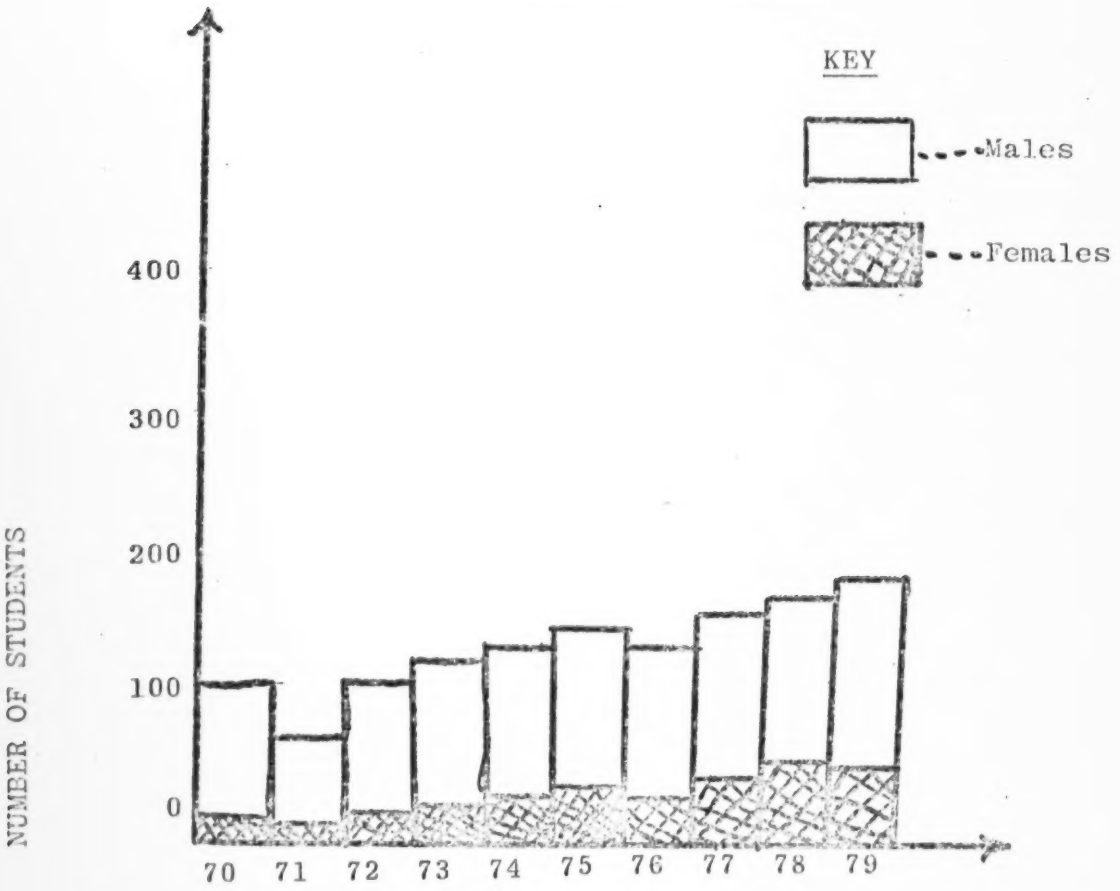
Figure 7a shows the proportion of female students to male students in the Faculty of Architecture for the years 1970 to 1980. During that period, architecture was mainly a male faculty. The highest number of women students to enroll in this faculty was 9 in 1979/80, 5.4 per cent of the total enrolment that year. This is understandable since one of the admission requirements into the faculty of architecture is a principal pass in mathematics. Secondly, architecture is considered by the Kenya Society to be a masculine profession. Because of this, girls who could very well study architecture shy away from it. This is despite the fact that in several Kenyan ethnic communities it was women and not men who used to build houses.

The same pattern of enrolment in architecture is to be found in the departments of building economics and land economics - Figure 7b and 7c respectively.

F I G U R E 6

ENROLMENT IN THE FACULTY OF AGRICULTURE

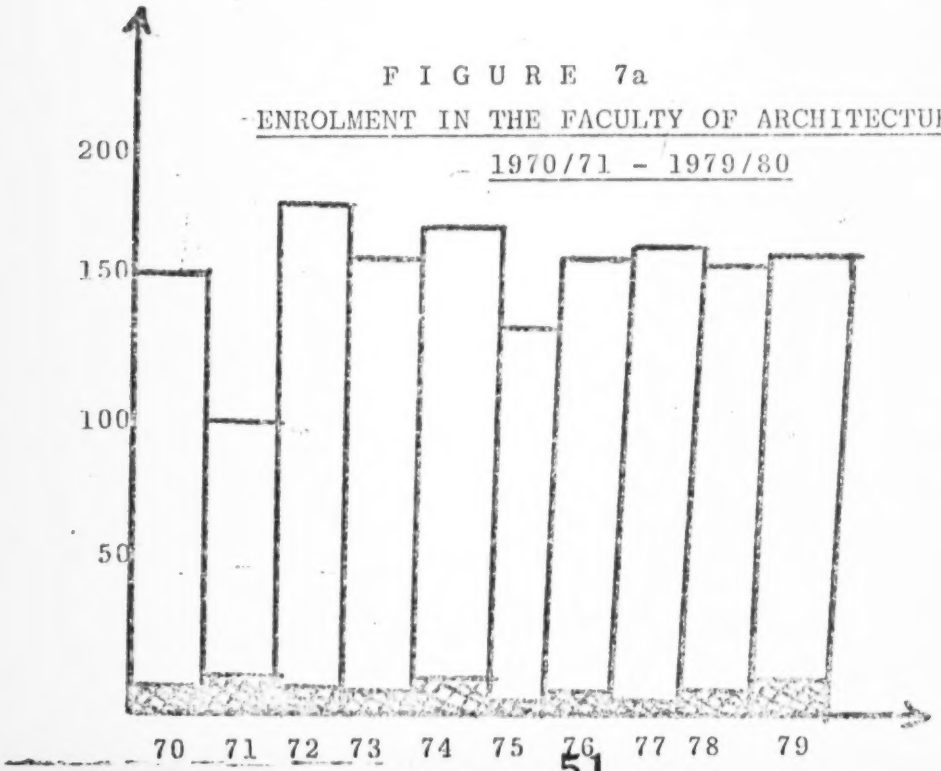
1970/71 - 1979/80



F I G U R E 7a

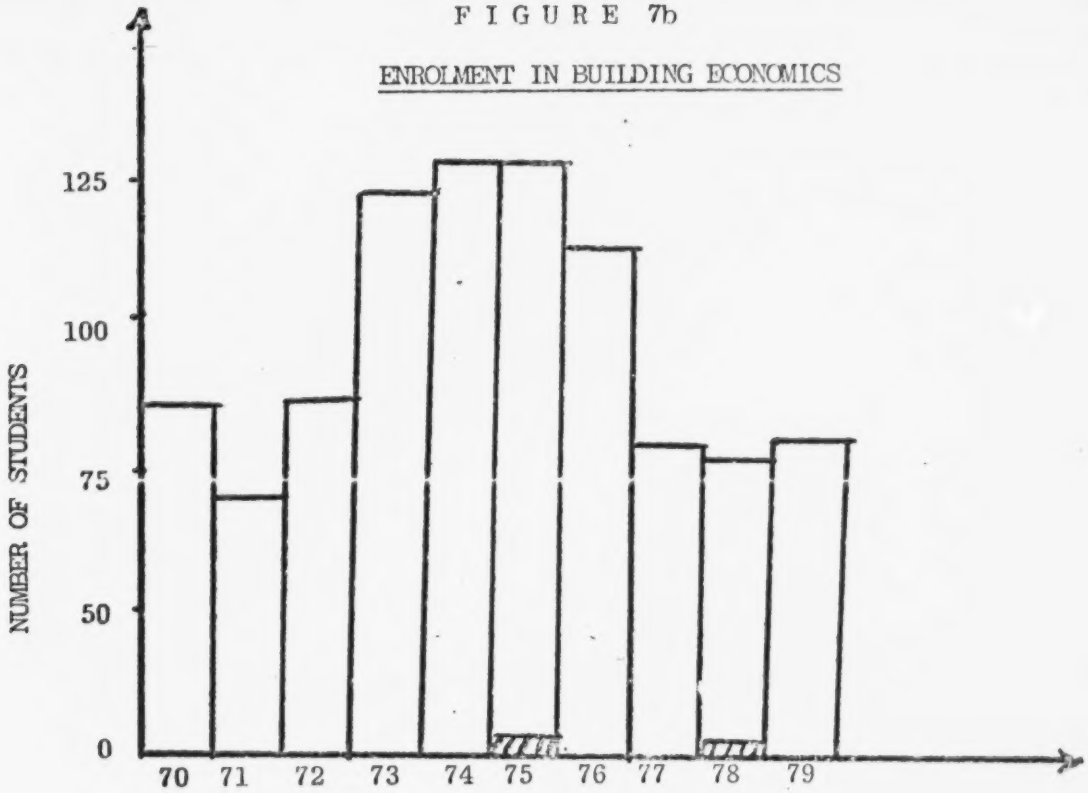
ENROLMENT IN THE FACULTY OF ARCHITECTURE

1970/71 - 1979/80



F I G U R E 7b

ENROLMENT IN BUILDING ECONOMICS



F I G U R E 7c

ENROLMENT IN LAND ECONOMICS

1970/71 - 1979/80

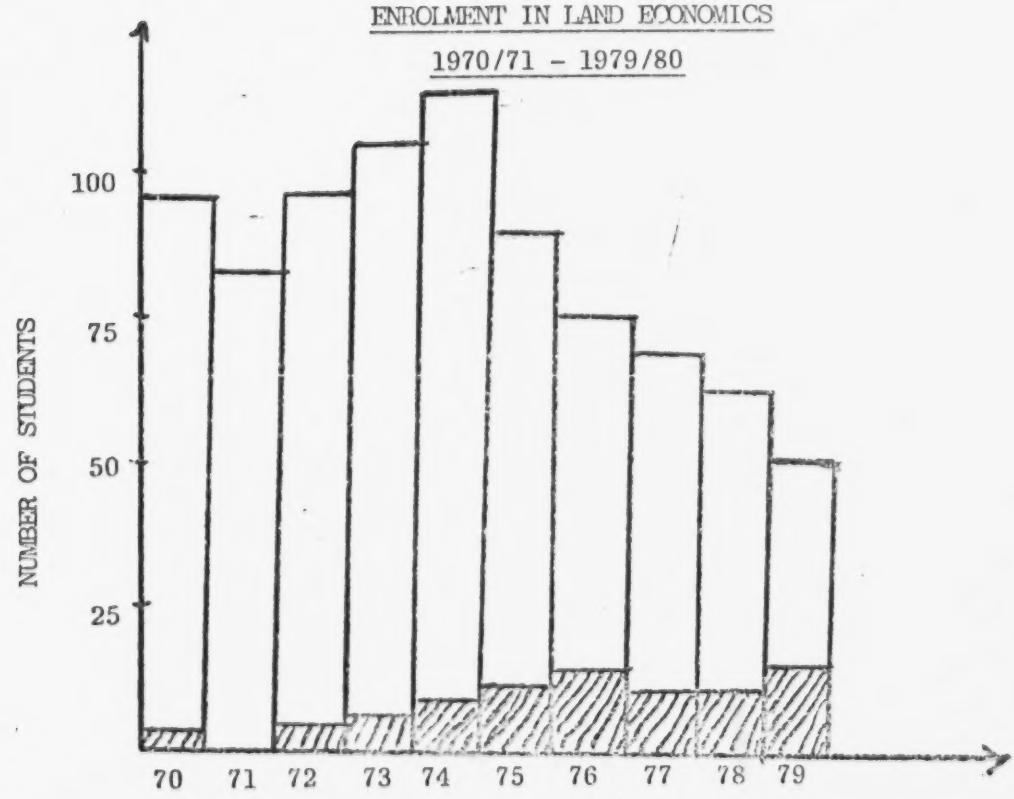


FIGURE 8

ENROLMENT IN COMMERCE

1970/71 - 1979/80

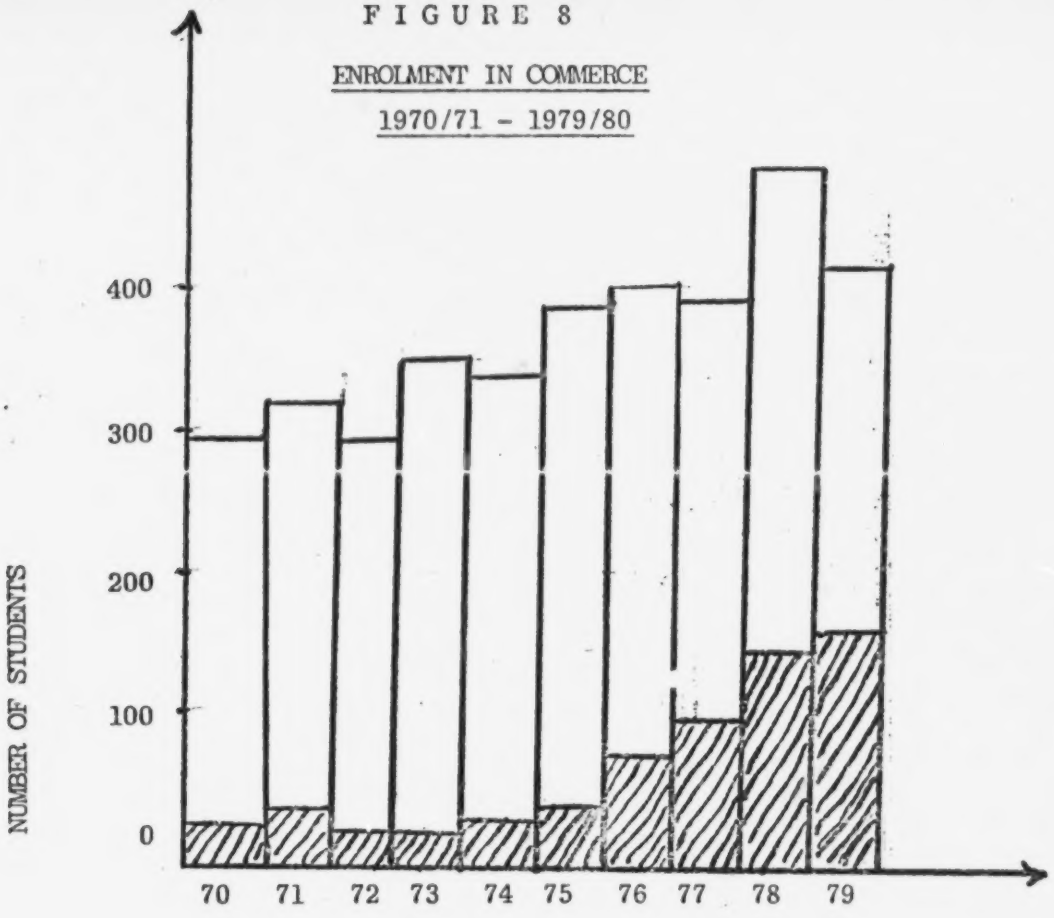
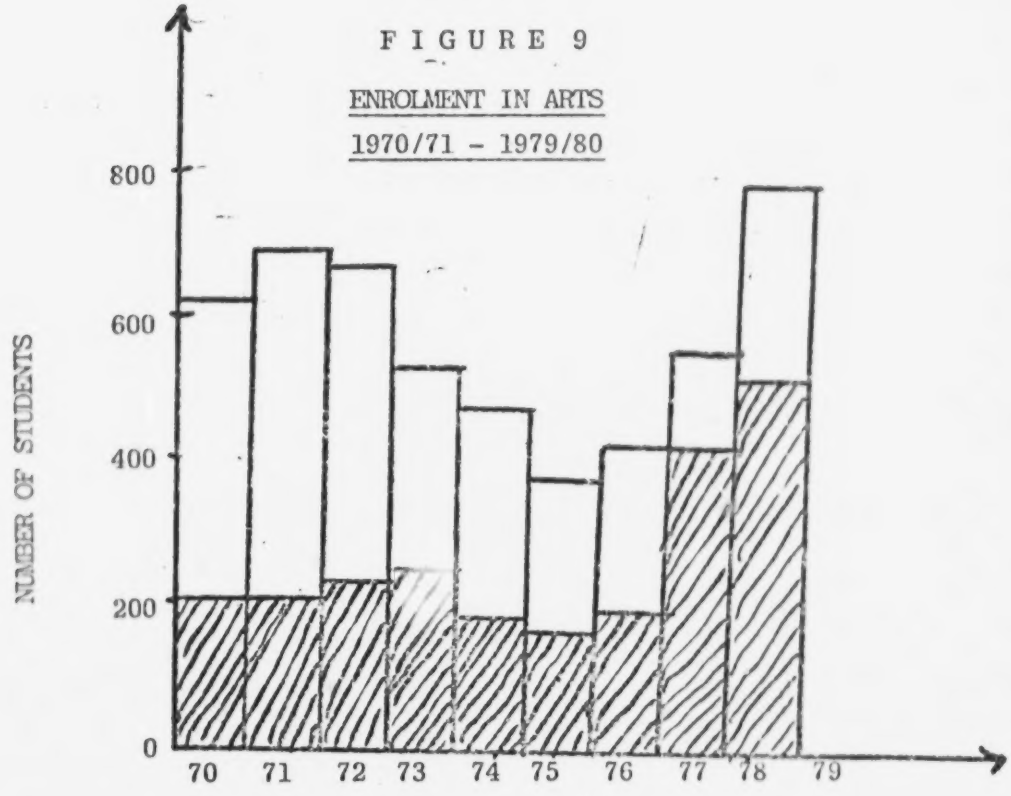


FIGURE 9

ENROLMENT IN ARTS

1970/71 - 1979/80



The highest number of women students enrolled in the department of building economics has been 2 out of 106 students. The enrolment of female students in the departments of land economics has shown a slight improvement from zero per cent to 21 per cent in 1980. As in the case of architecture, these two courses do not generate much interest among girls at school. While the mathematics requirement could be a major barrier to girls wishing to enrol in the two departments, the main cause of the low enrolment is lack of motivation on the part of the female students.

(c) Female Enrolment in the Faculty of Commerce

Figure 8 shows the proportion of women to men students in the faculty of Commerce. Although there has been a steady rise in the number of women students, (12 students in 1970 to 162 students in 1980) their proportion in comparison to the number of men students has been very low. For example in 1980, there were 162 women students out of a total of 589 students in the faculty. This means that the highest percentage women have attained in their enrolment in the faculty of commerce is 28 per cent. One of the main reasons for this low enrolment is the lack of women candidates with A-level passes in mathematics. Courses in the Commerce which have a component of economics and statistics tend to put off students who feel that they are weak in mathematics.

(d) Female Enrolment in the Faculty of Arts

The pattern of enrolment in the Faculty of Arts is shown in Figure 9. It is generally believed by educators that the Faculty of Arts is predominantly a women's faculty. The statistics in Figure 9 do not support this belief. The highest number of women students in the Faculty of Arts was recorded in 1979 when there were 502 women students out of a total number of 1305 students. This number accounted for 39 per cent of the total number of the under-graduate Arts' students. The reasons for the low enrolment of women compared to men in the faculty of arts are not easy to discover. As already noted the number of female candidates offering Arts subjects at A-level is comparable to the number of male candidates. Therefore, the low enrolment among the female students at the University suggests that the performance of female candidates at A-level is inferior to the performance of male candidates. This is compounded by a high drop out rate among the females due to pregnancies either in Form VI or prior to joining the University.

(e) Female Enrolment in the Faculty of Engineering

Figure 10 shows the proportion of female enrolment in the Faculty of Engineering at the University of Nairobi for the past ten years. Female representation in this faculty is negligible. Out of an average of 400 students enrolled each year from 1970 - 1977, the average number of female students

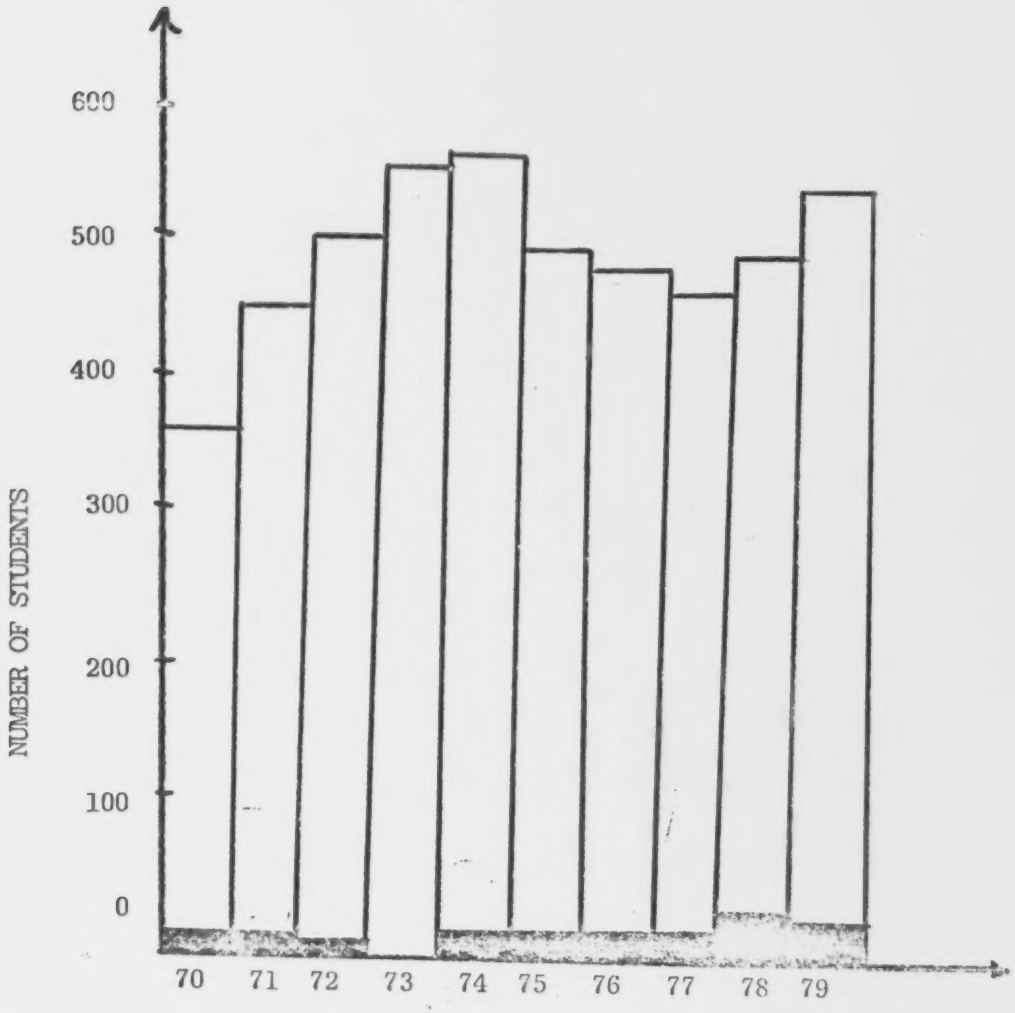
was three, less than one per cent. In 1979/80 the number of females improved to 12 and thus accounted for 2.2 per cent. What are the reasons for this dismal female enrolment? First, engineering requires mathematics and physics. These are the subjects that are least subscribed to by girls in A-level schools, and where the girls offer the subjects, they perform very poorly as we shall see later in this report. Secondly, engineering is wrongly regarded by many girls (and boys) as a profession that requires a lot of strength and endurance. Given their tender hands, girls cannot imagine that they can become engineers. In short they have no aspiration to become engineers. This lack of motivation for engineering can in turn be traced to the societal expectations of women roles and their occupations.

In a recent editorial (January, 14, 1982) The Standard noted that to a large extent women who obtain education and have to work in paid employment, seek jobs in professions that are considered "feminine". The editor argued that this could not be due to the physical requirement for the technical jobs, because in Kenya, women do more manual work than men. It is the attitude women have towards the technical professions like engineering that have led to the low enrolment in these fields. This negative attitude is a product of men's expectations of women's roles in society. If we accept the premise that faster development of the country will come through women's acquisition of technical skills, then the attitude towards technical fields such as engineering by women and society must change. How this change will be brought about is the main challenge facing science educators.

FIGURE 10

ENROLMENT IN ENGINEERING

1970/71 - 1979/80



F I G U R E 11

FEMALE ENROLMENT IN THE FACULTY OF VETERINARY MEDICINE

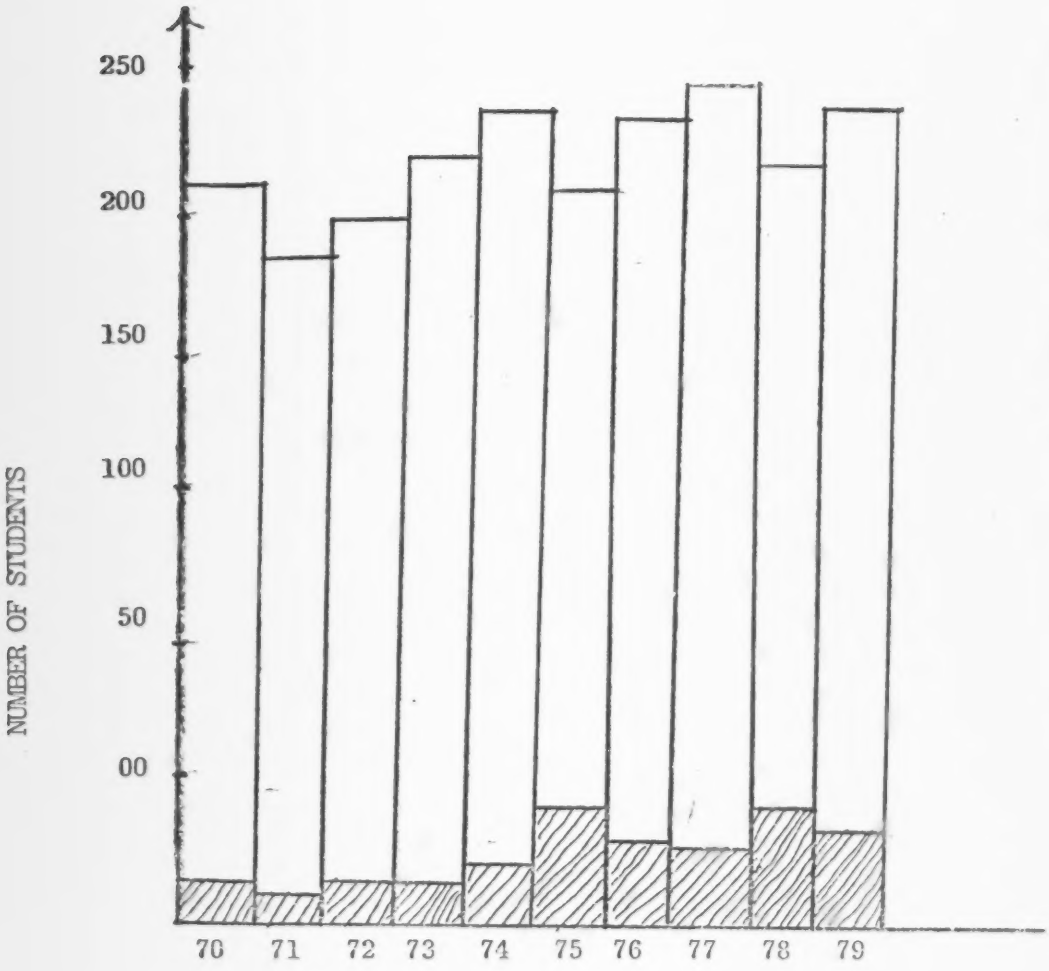


FIGURE 12

ENROLMENT IN MEDICINE

1970/71 - 1979/80

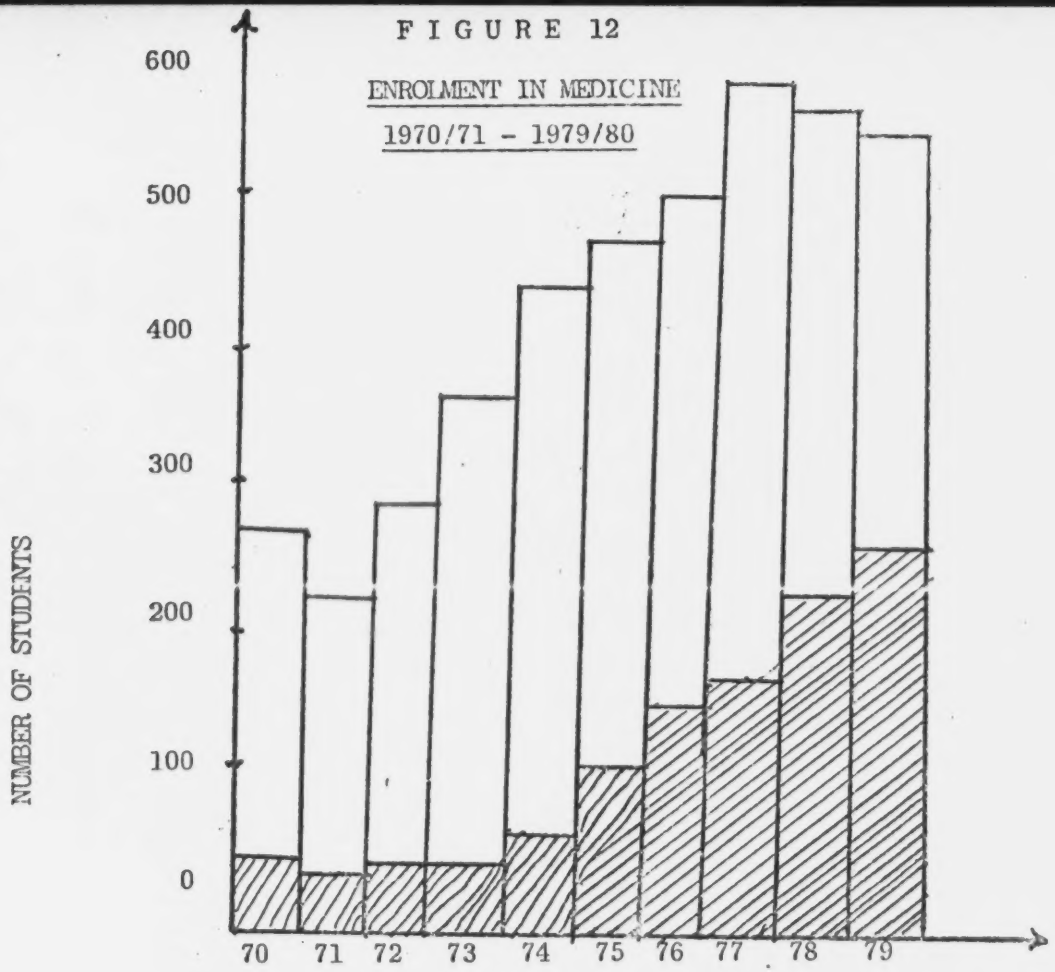
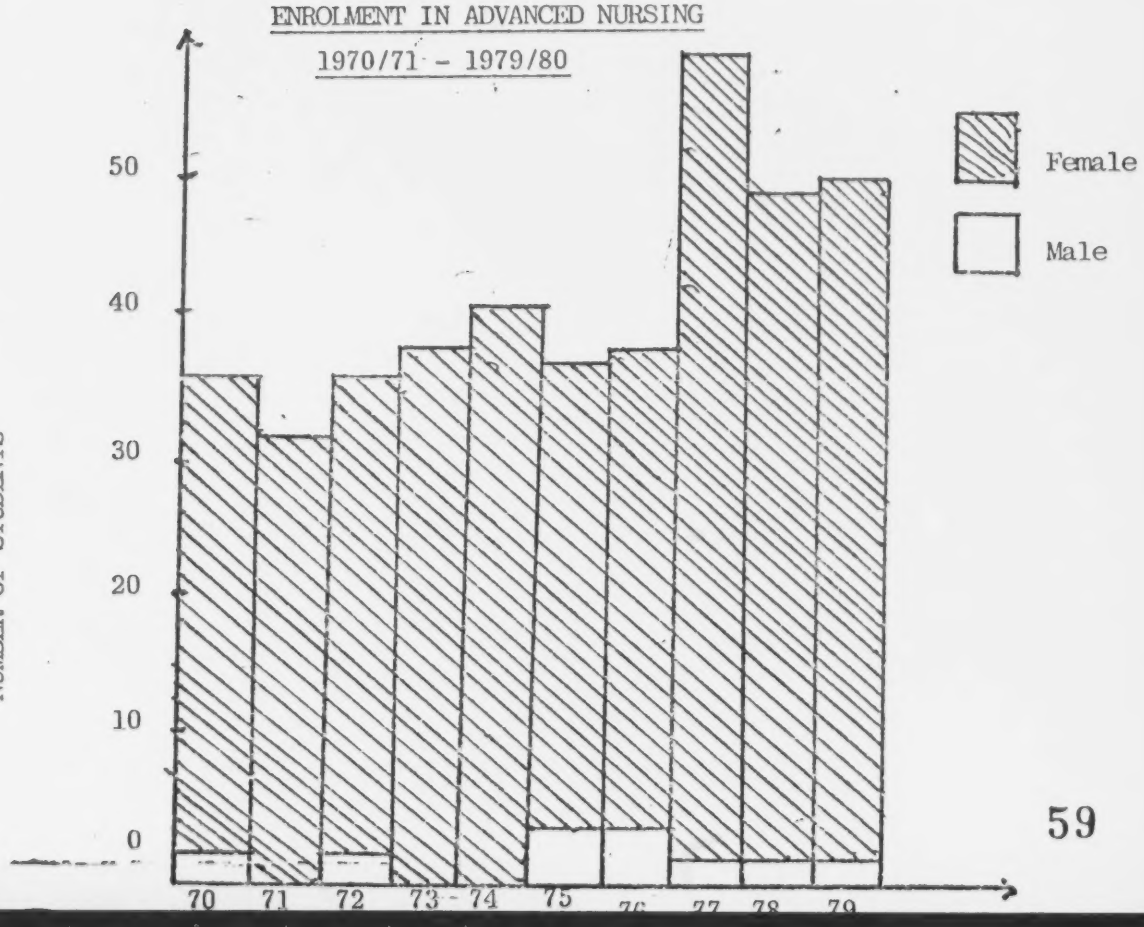


FIGURE 13

ENROLMENT IN ADVANCED NURSING

1970/71 - 1979/80



(f) Female Enrolment in the Faculty of Medicine and Veterinary Science and Advanced Nursing

Female enrolment in the Faculty of Medicine has shown an interesting pattern compared to Engineering. The number of women students in this faculty has increased steadily from over 40 students in 1970/71 to over 250 students in 1979/80. This is well illustrated in Figure 12. The 1980 number represents 31.5 per cent of undergraduate medical students. This rather healthy representation has been due to the fact that most of the girls at A-level who offer science, take Biology and Chemistry. The two subjects are required for admission into the faculty of medicine. Since the Faculty attracts some of the best candidates at A-level, it means that girls perform very well in Biology and Chemistry. Unlike engineering, medicine is regarded by the Kenyan society in general and by the Kenyan women in particular to have a feminine touch. Few eyebrows will be raised when a woman is introduced as a medical doctor by a woman engineer is regarded by most people not to be feminine.

The femininty of the medical profession is well illustrated by the enrolment in the Advanced Nursing Course. Figure 13 shows that apart from a springling of few males, the department of Advanced Nursing has been dominated by female students. The close relationship between medicine and veterinary medicine would imply that the female enrolment in both faculties is the same. A comparison of Figure 11 and 12 shows that

this is not the case. While a significant rise in the number of women students was realised in the Faculty of Medicine, this was not so in the Faculty of Veterinary Medicine. The highest female enrolment in this Faculty during the 1970/80 decade was in 1979, when women accounted for 13 per cent of the total undergraduate students in the Faculty. The reason for this low enrolment is to be found in the societal expectations with regard to the role of women. In general women are not expected to deal with matters concerning livestock or domesticated animals.

(g) Female Enrolment in the Faculty of Law

Female enrolment in the Faculty of Law has gradually increased from 20 students in 1970 to 75 students in 1980. This was out of a total of 120 students and 150 students respectively. The implication here is that the female enrolment is steadily approaching parity with respect to the enrolment of male students. Figure 14 clearly illustrates this and indicates that law as a profession is liked by females. The recent appointment of women to high office in the legal profession will encourage more girls to study law.

(h) Female Enrolment in the Faculty of Education

Figures 15 and 16 represent female enrolment in the Faculty of Education, Arts and Science respectively. The female enrolment among the Arts students increased steadily up to nearly 50 per cent of the total number of students in 1975, but started to decrease proportionately from 1976 to 1980. Among the science education

FIGURE 14

ENROLMENT IN LAW

1970/71 - 1979

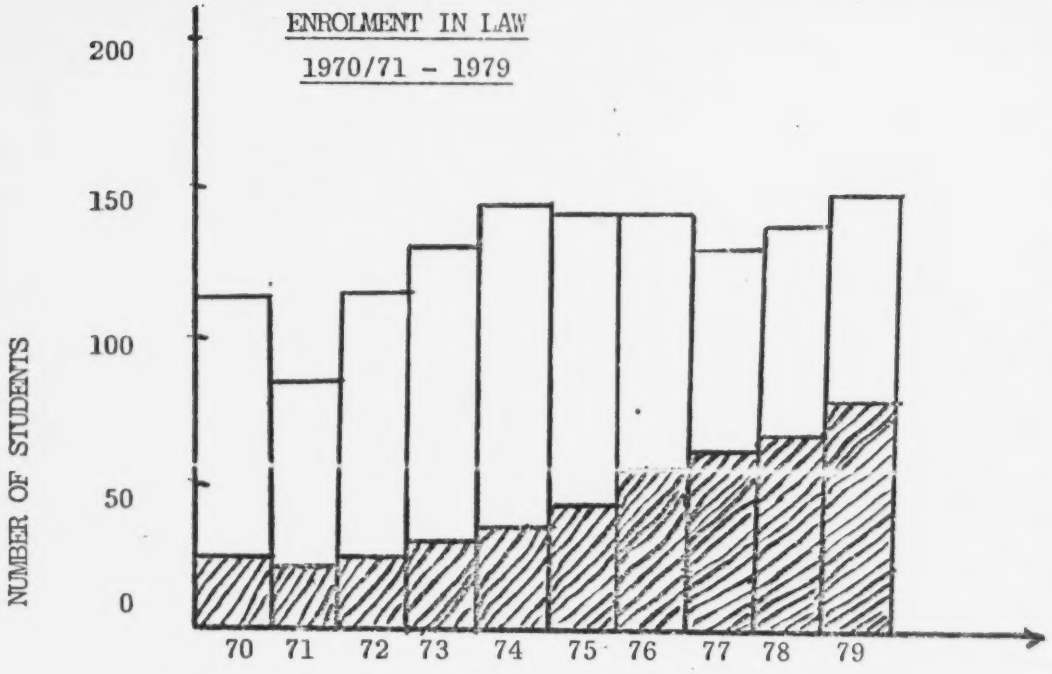
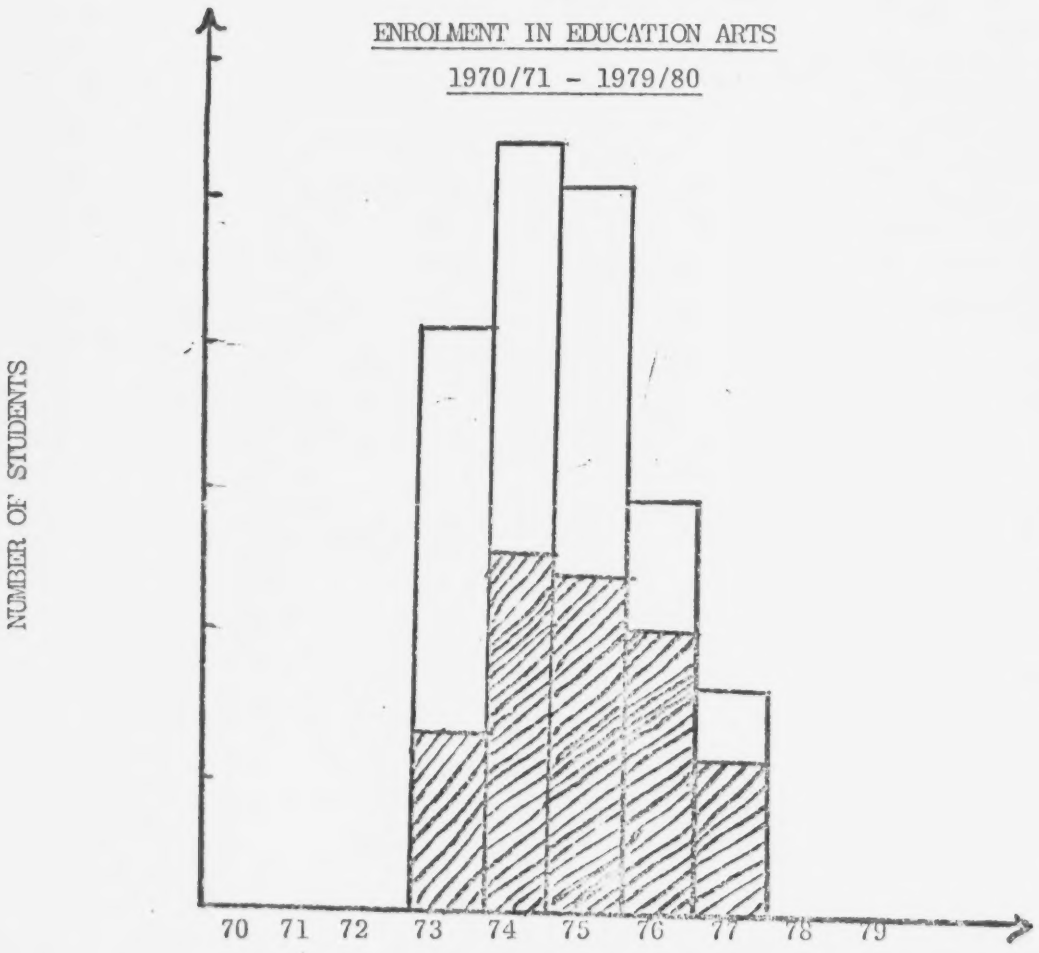


FIGURE 15

ENROLMENT IN EDUCATION ARTS

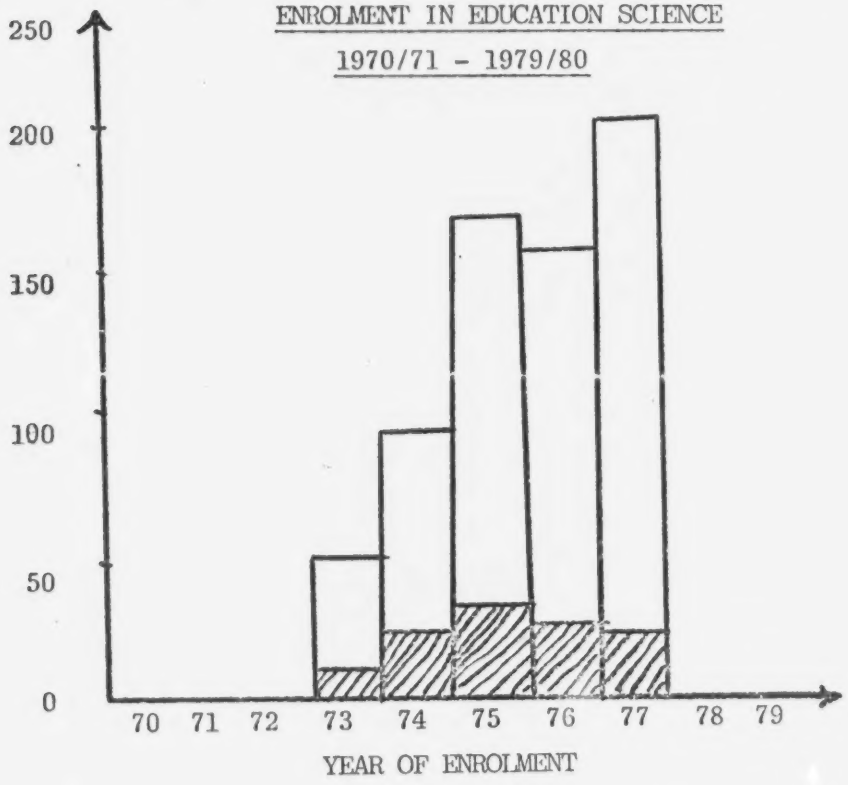
1970/71 - 1979/80



F I G U R E 16

ENROLMENT IN EDUCATION SCIENCE

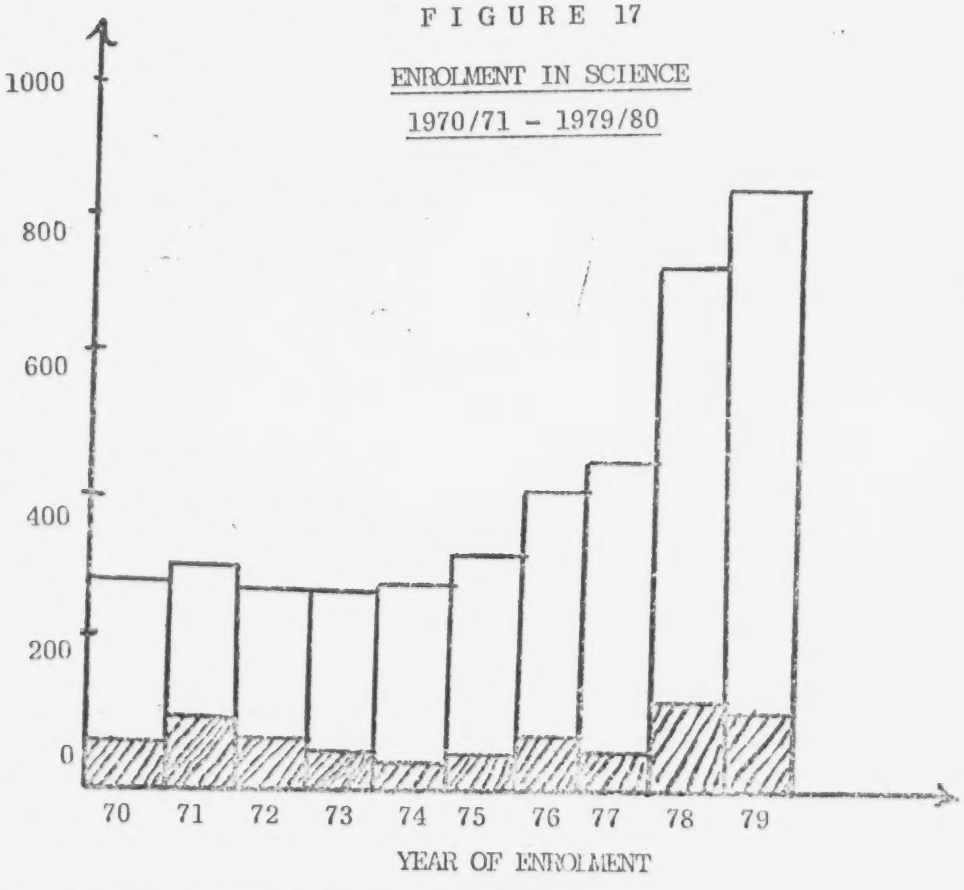
1970/71 - 1979/80



F I G U R E 17

ENROLMENT IN SCIENCE

1970/71 - 1979/80



students the female representation was much lower than in the Arts stream. While there was a sharp increase in the male education science students (see Figure 16), the proportion of the female enrolment remained almost constant from 1972 to 1980. The actual number of female education science students was hardly above 30. Of particular significance and worth noting was the 1977/78 academic year which recorded the highest number of education students studying science - 226. Out of this number only 19 were women, a representation of 8.4 per cent.

Although teaching is supposed to be a popular profession among the females, these statistics clearly show that for a long time to come the number of women science teachers in Kenya will continue to be very small. This has an adverse effect on science education for girls in two ways. First, the majority of teachers teaching science and mathematics at the secondary school will continue to be male teachers who have little patience with the girls and whose attitude towards the ability of girls to learn mathematics is negative. Secondly, as long as the girls do not see and interact with women scientists, they will for ever feel that science is not for women.

(i) Female Enrolment in the Faculty of Science

This study was essentially about the access of women to higher education in science. It is therefore appropriate that we consider the female enrolment in the faculty of science in detail. The enrolment

results in science will be a pointer to the true position in other science related fields. Figure 17 shows the student enrolment in the Faculty of Science for the years 1970 to 1980. While there was a gradual rise in the number of male students from 1970 to 1976, there was a significant decrease in the number of female students during the same period; the lowest proportion of female students occured in 1975/76 when they accounted for only 10.6 per cent of the total number of science students. During the second part of the 1970 decade there was a significant increase in the number of students studying science. Their number rose from 400 students to over 800 students. During the same period the number of female students enrolled in the Faculty hardly rose above 100 students. In 1979 when the total number of science students was 948, only 11.1 per cent were women.

The data for 1974 to 1980 is broken down into separate academic years in Figure 18. Two conclusions can be drawn from this data. First, female students are hopelessly under represented in the Faculty of Science. Secondly, the drop-out rate among the enrolled female students in the Faculty of Science is very high compared to that of male students. From some of the information we gathered, there were two major reasons for this significant differences both in numbers and performance between female students and male students in the Faculty of Science. First, the science background of the female students at the University was inferior to the background of the male counterparts. We found that generally speaking boys' schools which offer A-level science have better facilities comparable

to girls' schools. The Boys' schools also tended to have better qualified teachers than the Girls' schools and the staff transfer incidence was much lower. This means that male students studying science at A-level had superior preparation to that received by their female counterparts. These observations will be discussed in more details in later paragraphs.

Summary and Recommendations

The data reported in the preceding paragraphs shows that women's representation among undergraduates at the University of Nairobi reflects the patterns of their secondary school opportunities (CBC and UNICEF: 1984). The decade following independence, the proportion of women students at the University of Nairobi declined to a low 10 per cent and then began to rise. During the last decade the rise has been modest reaching 23 per cent in 1982.

Women are heavily concentrated in the arts. Fourty per cent of the female undergraduates, as compared to 19 per cent of the male undergraduates, are enrolled in the Faculty of Arts. Women's distribution within the University reflects the narrow range of their secondary school options. Table XVII shows the proportionate distribution of University of Nairobi undergraduates by Faculty and sex, 1981-82. Clearly, women are under-represented in the Faculties of Architecture and Design, Building Economics/Land Economics, Engineering, Science and Veterinary medicine.

The under-representation in science may be explained in part by the fact that these combinations are available at three-quarters of the boys schools with Forms V and VI, but at only 40 per cent of the girls schools. Increased provision of mixed schools at Forms V and VI seems to be one of the ways of increasing science opportunities for women. However, this strategy cannot guarantee quality science education for girls. For this reason other intervention strategies should be proposed. I recommend an immediate implementation on a pilot basis of compensatory enrolments for women in science fields both at University and at other post-secondary training institutions. One year of remedial instruction at University for women science students who achieve low at Form VI level would go a long way in closing the gap between the number of men and women studying science and related fields. The fact that relatively few women attain higher levels of education and training in science related fields contributes to the lack of science opportunities for girls at lower educational levels and to girls' tendency to avoid science subjects. One way to break this cycle is through special programmes designed to assist women to receive advanced training in science. In this connection I recommend strongly that a Senior School for girls specialising in science and mathematics should be established. Such a school could be run like a Junior College with a high concentration of well qualified teachers and facilities. International Agencies as well as Women Organizations could be approached for financial assistance in establishing such a school.

Perhaps one area in which there has been a significant rise in the number of women in University education is in the Faculty of Education. Kenyatta University College is the only institution charged with responsibility of offering B.Ed degree and post-graduate diploma for secondary school teaching. During the past decade, the number of women at this institution has been rising steadily. In 1984, the women constituted 44 per cent of the total student enrolment at the College. Almost as many women were enrolled at Kenyatta University College in 1981-82 (1,104) as in all undergraduate programmes at the University of Nairobi (1,202). Women also comprise 40 per cent of the students in primary teacher training colleges (CBS and UNICEF 1984: page 74).

T A B L E XVII

PROPORTIONATE DISTRIBUTION OF UNIVERSITY OF NAIROBI UNDERGRADUATES BY FACULTY AND SEX 1981-82

	Males %	Females %
Agriculture	8	6
Architecture & Design, etc.	3	2
Arts	19	40
Commerce	9	14
Engineering	14	1
Law	4	9
Medicine	11	9
Science	19	9
Veterinary Medicine	7	2

Source: University of Nairobi

3.11. Educational Attainment and Literacy Rates

The educational attainment of the population as a whole changes only slowly, as people generally have their schooling at the start of their lives and do not significantly add to it thereafter through any formal courses. Although the idea of continuing education is gaining ground in a number of developing countries, it still remains true that in most countries the vast majority of people do not return to the classroom once they have left it in their youth. For this reason one should be cautious about assigning to education any dramatically large impact in the short term on a country's economic and social life. These effects are more gradual and are felt over decades rather than in a few years. It may conversely be true that we can expect only limited versatility and responsiveness to change in populations with a restricted educational background.

For statistical purposes, the educational attainment of a person is defined as: "..... the highest grade completed and/or the highest level of education attained or completed by the person in the system of regular, special and adult education of his own or some other State".[1] Normally this type of statistic is collected through population censuses.

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(1) Confer: "Revised Recommendation concerning the International Standardization of Educational Statistics", Unesco, Paris, 27 November 1978, p.2.

Table XVIII below shows the levels of educational attainment of men and women as recorded during the 1979 census.

T A B L E XVIII

EDUCATIONAL ATTAINMENT FOR MEN AND WOMEN IN 1979

	No. education	Ratio (R) F - M	Primary				Secondary			
			1 - 4	R F-M	5 - 7	R F-M	1 - 4	R F-M	5 - 6	R F-M
Male	3,420,929	1.29	1837953	.9	1500698	.76	711085	.56	73599	.36
Female	4,432,565		1654391		1137491		401080		26776	

Source: Ministry of Education Science & Technology

The table reveals the severity of the female elimination process in education. There are about 1 million more illiterate women than men, indicating that more women than men lack access to education. Almost as many women as men attain lower primary education but their drop out rate is obviously higher than that of the men and the ratio is .76 at the end of primary school. Twice as many men as women attain secondary education up to Form four while at Forms five and six, the figure is three times as many men as women. This is in spite of the fact that at the sixth form age (15-19), there are actually more girls than boys in the population. The severe reduction of girls after every educational hurdle is brought about by lower enrolment rates as well as poorer performance in the examinations.

Another very useful type of information on the educational situation of the adult population of a nation is statistics of illiteracy. Such statistics are commonly collected through population censuses, but they may also be obtained by conducting special surveys. In interpreting illiteracy statistics, the reader is reminded that they are usually based on self-enumeration (rather than on literacy tests) and that the borderline between illiteracy and literacy is thus quite hazy. The definition of illiteracy given in the Recommendation quoted above is: "A person is illiterate who cannot with understanding both read a short simple statement on his everyday life".

In the Kenyan context, literacy is simply defined as the ability to read and write in any language. Kenya has devoted and continues to devote a considerable amount of effort to eradicating illiteracy. Adult education is being emphasized, the objective of which is to provide the knowledge, skills and attitudes which adults require to participate meaningfully in social and economic development. The first stage towards achieving this objective is to reduce illiteracy. This task has been assigned to the Department of Adult Education of the Ministry of Culture and Social Services.

The data on levels of literacy in Kenya have been collected through two national sample surveys. The first one was conducted in 1976 and was limited to the rural population aged 15 years and above not enrolled at school full-time. It was based on self-enumeration i.e. by the respondents' own judgement

of their literacy ability. A 46% literacy rate was established by this first survey. To further confirm and monitor any changes in literacy levels, a second literacy survey was conducted in 1981/82. To eliminate any possibility of exaggeration on behalf of the respondents, objective tests were administered to those who indicated that they were able to read and write. A respondent was not tested in any language he/she indicated that he/she could not understand. The results revealed that 48% of the rural population aged 12 years and above were able to read. A comparison of the results of self-assessment which was covered in the first part of the questionnaire and the results after administering the objective tests revealed that the amount of exaggeration was minimal. The results of the survey are detailed in Table XIX.

T A B L E XIX

PERCENTAGE DISTRIBUTION OF POPULATION AGED 12 YEARS OR MORE IN RURAL KENYA ABLE TO READ IN ANY LANGUAGE BY PROVINCE, 1981/82. RURAL LITERACY SURVEY

Province	Both sexes %	Males %	Females %
Coast	45	58	35
Eastern	48	62	39
Central	65	77	57
Rift Valley	41	53	30
Nyanza	39	54	29
Western	48	62	38
Rural Kenya Total	48	61	38

Source: Central Bureau of Statistics, Nairobi, 20% sample survey of rural areas.

Literacy was measured by ability to read correctly at least eleven words in a thirty word passage taken from basic primary texts in mother tongue, Swahili or English at the Standard 2-3 level. Currently the average level of literacy among adult males is almost twice that of adult females. Sixty-one per cent of the men aged 15 and above are literate in either mother tongue, Swahili and/or English. For women in the same age group the corresponding percentage is 38. Among men and women the level of literacy declines for each succeeding age group, with a high of 78 per cent for the 15-19 year-olds and a low of 12.4 per cent for those of 70 or over. (See Table XX). Within each age group literacy levels of women are lower than those of men, making mature women the group least accessible targets for information/ education through the written word. The greatest differences between male-female literacy occur among the 30-45 year age groups (reflecting male educational advantage in the late colonial period and early years of Independence). Differences are more modest among the oldest groups in the population (reflecting the initial educational disadvantage of all Africans during colonialism). The gap between males and females is extremely slight among the youngest age groups (reflecting the increased access of girls to primary education). For the 12-14 year-olds, the difference between male-female literacy is only 4 per cent, and for the 15-17 year-olds, it is 9 per cent. (See Table XX).

In their well documented analysis of the literacy rates in Kenya, the Central Bureau of Statistics and UNICEF (1984) drew the following conclusions:

(a) District level differences between males and females range from a low of 13-14 per cent (Nyeri, Kajiado/Narok, Nandi, West Pokot/Elgeyo Marakwet and Kwale) to 30-33 per cent (Kericho, Siaya and Busia).

> "There is no clear pattern which seems to account for the large gap between the male/female attainment in some districts and the smaller difference in other districts. For example, Nyeri District, with a high literacy rate and Kajiado/Narok district stratum, with the lowest, have the smallest differential between male and female literacy. There are other districts with almost the same level of total literacy but with extremely diverse male/female differentials. Cases in point are Nandi and Kericho districts."
> (Social Perspectives, 1982, page 5).

(b) District level variations in literacy among women aged 15 and above are wide, ranging from a high of 61 per cent in Nyeri District to a low of 16 per cent in Kajiado/Narok district stratum. When districts are classified according to the level of female attainment, the following groups emerge. (See Table XX).

Group 1. 61-50% Adult females literate in any language.

Coast Province: Kwale, Taita/Taveta.
Central Province: Kiambu, Murang'a, Nyandarua, Nyeri.

Group 2. 49-40% Adult females literate in any language:

Eastern Province: Embu, Machakos

Central Province: Kirinyaga

Rift Valley Province: Uasin Gishu

Western Province: Kakamega

Group 3. 39-30% Adult females literate in any language:

Eastern Province: Meru

Rift Valley Province: Nandi, Nakuru, Trans Nzoia, West Pokot/ Elgeyo Marakwet.

Nyanza Province: Kisumu

Western Province: Bungoma

Group 4. 29-16% Adult females literate in any language:

Coast Province: Kilifi/Lamu/Tana River

Eastern Province: Kitui, Kajiado/Narok, Kericho, Baringo/Laikipia, Kisii, Siaya, South Nyanza, Busia.

(c) Female literacy in Swahili and English is also significantly below the male level, nationally and in all districts. Overall, 51.6 per cent of the rural males, as compared to 28.6 per cent of the rural females are able to read in Swahili. For English, the comparable figures are 41.5 and 25.1 per cent respectively. (See Table XX)

T A B L E XX(a)

ADULT LITERACY AMONG RURAL SMALLHOLDERS, 1981

% DISTRIBUTION OF POPULATION ABLE TO READ IN ANY LANGUAGE, BY AGE GROUP AND SEX

Age Group	Male	Female	Total
12 - 14	74.0%	70.0%	72.0%
15 - 17	83.2	73.8	78.3
18 - 19	86.0	60.2	71.0
20 - 24	74.1	52.6	60.0
25 - 29	66.0	42.5	51.3
30 - 34	69.5	34.4	49.0
35 - 39	60.7	23.7	37.4
40 - 44	53.0	19.5	32.9
45 - 49	43.4	15.1	26.6
50 - 54	39.2	9.9	22.3
55 - 59	37.9	6.7	21.5
60 - 69	27.5	5.8	16.1
>70	19.5	3.5	12.4
Total	61.0	38.4	48.1

T A B L E XX(b)

% DISTRIBUTION OF POPULATION ABLE TO READ IN SWAHILI AND ENGLISH, BY AGE GROUP AND SEX

	SWAHILI			ENGLISH		
Age Group	Male	Female	Total	Male	Female	Total
12 - 14	59.8%	57.7%	58.8%	55.9%	53.7%	54.8%
15 - 17	72.1	64.1	67.9	71.3	63.7	67.4
18 - 19	76.2	49.5	60.7	75.7	48.0	59.7
20 - 24	66.6	40.0	49.2	62.1	37.0	45.7
25 - 29	59.5	30.3	41.2	50.8	25.4	34.9
30 - 34	60.1	24.2	39.1	47.3	19.2	30.8
35 - 39	51.9	13.2	27.9	37.9	6.2	18.3
40 - 44	45.4	9.3	23.7	24.6	3.3	11.8
45 - 49	34.4	7.0	18.1	14.0	2.7	7.3
50 - 54	29.8	3.2	14.4	9.6	0.6	4.4
55 - 59	28.5	2.8	15.1	7.5	1.2	4.2
60 - 69	20.6	1.1	10.3	5.8	0.5	3.0
>70	13.1	0.8	7.6	1.8	0.5	1.2
Total	51.6	25.9	38.5	41.5	25.1	32.1

T A B L E XX(c)

DISTRIBUTION OF POPULATION ABLE TO READ ANY LANGUAGE, SWAHILI AND ENGLISH, BY PROVINCE AND DISTRICT

PROVINCE/DISTRICT	Any Language			Swahili			English		
	Male %	Female %	Total %	Male %	Female %	Total %	Male %	Female %	Total %
COAST	58.4	34.9	44.7	47.6	18.3	30.5	32.0	13.2	21.1
Kilifi/Lamu/Tana River	47.2	20.7	31.7	42.3	10.7	23.8	28.8	7.2	16.2
Kwale	65.2	51.4	57.5	40.3	12.3	24.6	25.6	8.2	15.9
Taita Taveta	79.7	50.8	61.9	74.3	45.1	56.5	51.1	34.9	41.2
EASTERN	61.9	38.6	48.3	54.1	31.9	41.2	41.5	27.9	33.6
Embu	64.7	40.8	50.5	55.1	32.9	41.9	44.9	28.7	35.2
Kitui	55.1	29.3	39.0	49.3	24.0	33.4	37.9	21.1	27.4
Machakos	68.3	43.1	54.1	60.4	37.0	47.2	45.0	30.1	36.7
Meru	54.5	37.7	44.9	46.2	29.6	36.6	36.5	29.3	32.4
CENTRAL	77.3	56.7	65.4	68.4	43.9	54.3	60.2	41.6	49.5
Kiambu	83.4	57.8	68.6	73.1	43.4	56.0	66.8	44.1	53.7
Kirinyaga	76.2	49.2	61.3	66.1	39.2	51.2	59.6	36.8	47.0
Murang'a	74.4	56.3	64.1	67.9	43.5	53.9	56.9	39.9	47.2
Nyandarua	75.7	52.5	62.1	64.1	40.7	50.4	54.6	34.1	42.6
Nyeri	74.3	61.5	66.7	65.7	48.7	55.6	58.1	45.9	50.8
RIFT VALLEY	53.2	30.1	40.9	43.6	23.7	33.2	34.5	19.9	26.7
Kajiado/Narok	28.8	16.1	21.2	24.0	10.1	16.2	19.1	11.5	14.9
Kericho	59.4	28.8	44.5	40.6	14.7	28.0	35.6	17.8	27.0
Nakuru	65.7	37.8	49.5	57.4	30.5	41.8	42.6	22.5	30.9
Nandi	52.0	38.3	44.9	47.3	33.5	40.0	33.6	26.0	29.2
Baringo/Laikipia	45.1	28.6	35.9	39.3	21.7	29.4	29.9	17.5	22.9
Trans Nzoia	63.2	38.0	50.1	56.3	29.0	42.1	41.1	22.4	32.9
Uasin Gishu	56.8	41.9	48.7	49.0	36.1	41.9	39.9	26.5	32.5
West Pokot/ Elgeyo Marakwet	48.0	33.8	40.8	41.9	23.9	32.7	24.0	18.0	25.0
NYANZA	54.2	28.7	39.1	43.0	19.4	29.0	36.3	17.5	25.1
Kisii	51.5	28.7	39.0	42.1	18.8	29.3	36.1	17.3	25.1
Kisumu	57.1	33.8	43.0	50.5	26.2	35.9	44.4	22.7	31.4
Siaya	63.0	29.9	41.5	51.6	21.4	32.0	39.7	17.8	25.5
South Nyanza	51.3	25.5	35.7	35.8	15.5	23.6	30.7	15.0	21.5
WESTERN	61.8	38.0	48.2	52.8	29.7	39.3	41.1	24.2	31.4
Bungoma	65.5	35.8	48.3	58.8	27.3	40.6	22.9	32.6	31.4
Busia	57.9	26.5	40.6	49.0	18.8	32.4	38.5	16.9	26.2
Kakamega	61.7	42.0	50.3	51.8	32.8	40.8	40.2	26.9	32.5
KENYA	61.1	38.4	48.1	51.6	28.6	38.5	41.5	25.1	32.1

Source: CBS and UNICEF: Situation Analysis of Children and Women in Kenya, Nairobi 1984, page 77.

3. Women's Participation in Non-Formal Education

Non-Formal education for rural women in Kenya comes mainly through the extension network in the Ministries of Health, Agriculture, Co-operatives, and Culture and Social Services.

Although steady progress has been made in the provision of non-formal education through the extension services, it has been limited by several factors. Krystall (1978) has identified the following limitations:

1. Generally, education provided for women has emphasised the home (mothercraft, child care, nutrition, and first aid) and has ignored training designed to develop skills leading to self - or salaried - employment. Agricultural extension emphasises "cash crops"; both agricultural research and education give considerably less attention to food crops which absorb the major portion of women's agricultural efforts. Barnes (1975) notes that "the composite annual statistics from farmers' training centres which show a high attendance rate for women are due largely to their attendance at the home economics courses offered by these centres." Apart from cooperative women's groups, there is no training offered to assist women interested in setting up or improving small businesses. Therefore, non-formal education for rural women does not well assist them with their usual agricultural activities nor enable them to diversify and to undertake activities with greater economic rewards.

2. A majority of extension officers are men. There is some evidence which suggests that these officers may seek out men and ignore women in their provision of information and allocation of training opportunities. A study by Standt (1975) indicates that male farmers are more likely than female farmers to be visited by agricultural extension workers or to attend courses at farmers' training centres, even when women are the managers of their farms. The same study also reports that when the initiative is the farmers' (as with attendance at demonstration plots), the proportion of female participants rises.

3. Since women's access to financial resources is less than men's, women are particularly disadvantaged by the lack of coordination of education with the provision of inputs to make possible implementation of recommended practices. For example, even when literacy and adult education classes, usually well-attended by women, are geared towards practical activities, they usually are not co-ordinated with specific projects being undertaken in particular communities. When improved food crops are promoted by agricultural extension, such as hybrid maize, inputs usually are received by men, not women.

4. Non-formal educational programmes do not usually make use of methodologies and approaches most appropriate to the needs of women. The problem-centred approach has a positive effect on retention and utilisation of learning and on the self-image of the learner. Therefore, women especially would benefit from a change in the educational strategy

generally used by most extension officers, from emphasis on the transmission of information to emphasis on developing the learner's ability to make use of information to solve immediate problems. Such a change requires a corresponding change in emphasis in the pre-service and in-service training of extension officers.

5. The timing and organisation of non-formal educational programmes do not usually take into account women's home and agricultural responsibilities. It is important that formats be developed which carry education more directly to rural women like greater use of itinerent teams of trainers and radio listening groups.

6. The education of women has tended to be thought of as the responsibility of one or two agencies or of the female officers within an agency. Therefore, it is important that pre-service and in-service training of all types of extension officers give emphasis to women's role in rural development and to the importance of the activities of all members of the family unit in promoting improved family welfare.

7. There is considerable under-representation of women in rural extension. Only 22 per cent of the agricultural extension officers are women, despite women's predominance in this sector. It is important to encourage greater representation of women among the officers who work in rural areas.

An important development in the educational opportunities for rural women has been the Women's Group Programme developed by the Ministry of Culture and Social Services. This programme organises training courses for women's group leaders and follow-up activities with the women's groups to assist them to:

1. Make more effective use of local resources;
2. Increase the impact of their activities on the welfare of their families;
3. Increase the impact of their activities on the development of their communities.

The programme trains teams of extension officers who organise the programme at local levels. This programme began in the six areas; in 1975, it was extended to fourteen new districts. It is the intention of the Women's Bureau to support further nation-wide extension of the programme.

This programme incorporates two important features designed to improve the quality of education for rural women.

4. Recommendations

In the preceding paragraphs we have noted that significant progress was made in the area of education for Kenyan women during the 1975-1984 decade. This was particularly so at the primary school level where near parity was achieved in the

enrolments between boys and girls, and to a lesser extent in the adult literacy for women. There are, however, regional disparities and significant differences in attrition rates and in achievement. At the secondary school level modest progress had been made in the number of girls attending school. Three main disturbing observations at this level is the high rate of drop-outs among females from the system due to adolescent pregnancy; limited number of secondary schools for girls, and non-participation of girls in science and technical education. On the positive side, improvement in the number of girls attending secondary school can be attributed to changed parental attitudes regarding the value of education for women that has taken place during the last decade. The proportion of girls at tertiary, although it has been increasing, remains very small (23%).

Based on the information gathered from a wide cross-section of women, I recommend the following intervention strategies:

1. Proportionately more women than men remain in rural areas, engaging in small-scale agriculture and petty trade. These activities are ignored in the primary school curriculum. Consequently, their years of schooling are not preparing most women for their usual activities. Further, since these activities are ignored by

the school, it seems to most people that women do not need much education for what they will do, thereby reinforcing the impression that women's education is of less importance than men's. Therefore, women require with special urgency a primary school curriculum which stresses and gives basic preparation for agriculture, budgeting, family welfare (health, nutrition, sanitation) and community development. Aspects of this recommendation have been inco-operated in the new 8-4-4 curriculum.

2. Secondary school curriculum should stress and give basic preparation for agriculture, budgeting, family welfare and community leadership.

3. Secondary school curriculum should include a course dealing with responsible relationships between men and women and giving information concerning reproduction and contraception.

4. Action should be taken to ensure an increase in the places of government-aided schools available to girls at secondary and higher school certificate levels.

5. Action should be taken to increase the opportunities available to girls in science both by increased provision of science opportunities for girls at secondary and at higher school certificate levels and by compensatory enrolments for women at post-secondary and at University levels.

6. Investigation should be carried out especially by teacher training institutions about the possibility of differential treatment of boys and girls at primary and secondary levels, and an emphasis on adequate preparation of girls in the pre-service and in-service training of teachers.

7. There should be improved career information and counselling for girls through the Careers Information Booklet and through school guidance counsellors.

8. The following is a summary of recommendations in the area of non-formal education:

a) Increase in educational programmes for women designed around their agricultural and economic activities.

b) Coordination of educational programmes with the provision of inputs to make possible implementation of recommended practices.

c) Attention to women's home and agricultural responsibilities in the timing and organisation of educational programmes.

d) Development of an integrated structure extending from local to national level to plan and organise locally-relevant and coordinated educational-service programmes.

e) Emphasis in the pre-service and in-service training of extension officers on the role of women in rural development and on the range and variety of women's activities.

f) Emphasis in the pre-service and in-service training of all extension workers on communication skills, planning and problem-solving.

g) Increase in the number of female extension officers, especially in agriculture.

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